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Submitting Material for Publication

We encourage our readers to consider submitting material on early North American numismatics to *CNL* for publication. In general, this includes coins, tokens, paper money, and medals that were current before the U.S. Federal Mint began operations in 1793. However, there are certain pieces produced after the 1793 date that have traditionally been considered part of pre-Federal numismatics and should be included. We cover all aspects of study regarding the manufacture and use of these items. Our very knowledgeable and friendly staff will assist potential authors to finalize submissions by providing advice concerning the text and help with illustrations. Submissions in either electronic or hard copy format, should be sent to the editor via the e-mail address given above or through the ANS at their postal address. Electronic text submissions should be formatted in Word with separate grayscale images.

Editorial

This is the last issue overseen by Oliver Hoover, who has done an outstanding job as editor of *The Colonial Newsletter.* Colonial numismatics owes him a debt of gratitude and I am particularly grateful for his assistance this last year. I have asked Oliver to stay on as an associate editor; a position I hope he will accept.

This issue is, as you can see, very full. Two of the articles are by old friends, John Kleeberg and Jeff Rock, while the third is by your Editor, or, as J. C. Spilman would say, "ye editor." The oldest riddle in American numismatics is "who engraved the dies for the 1792 Birch Cent?" After extensive research, your Editor has answered the riddle, or at least answered it as well as it may ever be answered, in his article "James F. Atlee, Albion Cox, Bob Birch, and the 1792 Birch Cent." The answer to the riddle—"Bob Birch"—is not as important as the journey to obtain the answer, which indicates that Bob Birch may have gotten his start in the engraving business working for Albion Cox at the Rahway Mint fashioning dies used to strike New Jersey coppers. Based on the "Atlee Broken 'A' Theory," which your Editor believes has been extended too far; these dies were previously credited by some to James F. Atlee. The article also introduces readers to John Harper, a Trenton and Philadelphia blacksmith and saw-maker who reportedly oversaw production of New Jersey coppers at the Rahway Mint for Cox and later worked closely with his friend Cox and the U.S. Mint in its early days. Harper is an overlooked and under-researched figure and an examination of his life may yield answers to some outstanding New Jersey copper questions. Subscribers are encouraged to research him and submit articles.

John Kleeberg has written another short and insightful article; this time on Elephant tokens. Your Editor is very impressed by the breadth and depth of Mr. Kleeberg's knowledge and thinks you will continue to be as well. In the last issue of *CNL*, Mr. Kleeberg answered questions relating to Chalmers coinage, now he has turned his attention to Elephant tokens and a previously unnoticed source that may hold the key to the origin of these tokens.

The final article is by Jeff Rock, an expert in the area of British copper coinage. This article is particularly useful to Colonial researchers as many of the men who counterfeited copper coins in America were recent English immigrants. It is therefore helpful to our understanding of American Colonial coinage to understand how coins, both authentic and counterfeit, were manufactured in England. Recently, your Editor visited the New York State Museum in Albany to examine an assemblage of Colonial era coins unearthed from lower Manhattan—the majority of coins were George II and III counterfeits. This is testament to the fact that these coins were the workhorse of American commerce and circulated freely in this country before the adoption of the Constitution.

At this time, it looks as if the first issue of 2017 will feature articles on Arabic coins that circulated in New England, an article on the origin of Sommer Islands Hogge money, and a piece on the Newman Portal. One of the founding purposes of *CNL* was to publish articles on state coinages. Your Editor would like to publish more articles on state coppers and invites subscribers to contribute on this topic. Such articles shall be given first priority for publication.

In closing, your Editor is a volunteer. As I begin this journey, I am sure I will make mistakes. Indeed, I have no doubt already made a few. I can only hope that I can do a job worthy of the great numismatists that preceded me as editor of this esteemed publication. It is an honor and a privilege to be your Editor. I will strive with every issue to bring you enlightening, interesting, and worthwhile articles. I am always available to discuss new ideas for articles with subscribers.

Christopher R. McDowell,

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Letter to the Editor

Dear Chris/Editor:

I was very impressed with my friend John Kleeberg's article on the iconography of the Chalmers coinage in *CNL*-161; he has certainly nailed the source of the imagery, refuting Breen's wild theory. But I am troubled by his statement that "Chalmers, an enthusiastic Methodist preacher, was using Christian iconography on his coinage" (p. 4427). Schopf's book leaves no doubt that the coins were issued in 1783, yet Chalmers was not ordained until 1799 (p. 4425) and was not even "converted" to Methodism until 1785. (Schab, p. 2298, citing Nellie Bullen, *One Hundred and Ninety Years of Methodism in Annapolis*, Annapolis, Md.: 1979, p. 1). In 1783 he was presumably a member of the Church of England or perhaps a Dissenter, if even a Christian.

Certainly this emblem is based on Matthew 10:16, and Chalmers obviously knew the Bible (at least after 1799), but I fail to see a Methodist connection here. I suspect that he chose this symbol from another source, and suggest that the many 18th-century emblem books be checked. They are the source for nearly all the emblems seen on Continental Currency.

Robert Leonard

Taking Another Look at Elephant Tokens: Evidence from John Houghton's *Collection for the Improvement of Husbandry and Trade*

by
John M. Kleeberg; New York, NY

Elephant tokens, with their exotic type, have never ceased to fascinate researchers in Early American coins.[1] This article will bring to the attention of researchers an overlooked source that may hold the key to the origin of the Carolina Elephant tokens, and to discuss a possible explanation for their existence.

Figures 1–2. Carolina Elephant token (above) and London Elephant token (below). *ANS 1956.104.22 and ANS* 1916.192.360.

We will begin with a review of the previous research and highlight the findings of particular importance. Hyman Montagu seems to have been the first to record that the London Elephant tokens—according to him, both the "GOD PRESERVE LONDON" and the "LONDON" types—appear overstruck on copper halfpence of Charles II.[2] In U.S. auction catalogs, the first appearance of an Elephant token with a visible undertype is New Netherlands' 60th Sale; now, no fewer than four such tokens have been identified.[3] This does not mean, however, that the Elephant tokens were struck in the reign of Charles II: Steimle observed that when the Elephant tokens were struck, the Charles II halfpence of 1672–1675 were the last issue of copper halfpence (in the interval, 1685–1692, halfpence were only issued in tin), and therefore anyone who wanted to use a copper planchet for a trial piece would of necessity revert to a coinage that was two decades old.[4]

1 Frank Steimle, "A Tricentennial Review and Comments on the 'God Preserve…' Elephant Tokens," *The Colonial Newsletter* 99 (April 1995): 1481–1487; David D. Gladfelter, "A Tale of Two Elephants," *The Colonial Newsletter* 100 (July 1995): 1511–1514; R. Neil Fulghum, "The Hunt for Carolina Elephants: Questions Regarding Genuine Specimens and Reproductions of the 1694 Token," *The Colonial Newsletter* 122 (April 2003): 2415–2459.

2 Hyman Montagu, *The Copper, Tin and Bronze Coinage and Patterns for Coins of England,* 2nd ed. (London, 1893): 73.

3 See the comments of Frank Van Valen in the Stack's Bowers Americana Sale, January 22, 2013, lot 11029. The four examples listed there are: (1) New Netherlands 60th Sale, December 3–4, 1968, lot 244; (2) Stack's Robison Sale, February 10–13, 1982, lot 55; (3) American Numismatic Rarities, August 2006; (4) Stack's Bowers Americana Sale January 22, 2013, lot 11029 (ex Ted Craige).

4 Steimle 1995:1487.

Figure 3. Charles II halfpenny used for overstruck London Elephant tokens. *ANS 0000.999.22*.

In 1769 Thomas Snelling stated that the elephant die was still in the Tower Mint, which indicated that the coins had been struck there, and proposed that the die was the work of John Roettiers. [5]By 1910, however, when a catalogue was compiled of the dies in the Mint, the die was no longer there, nor were there any dies earlier than 1800.[6] Certain infelicities in the punching of the lettering on the reverse led Gladfelter to doubt that the dies were the work of John Roettiers, but it cannot be excluded that the dies were the work of a less gifted member of his family—his two brothers, Joseph and Philip, and his two sons, James and Norbert, assisted John Roettiers with his work at the Mint.[7] Nevertheless, stylistic similarities in the style of the lettering and the numerals led Gladfelter to be confident that the Elephant tokens were coined in the Tower Mint. [8]

Crosby noted that there were two obverse elephant dies: one with the tusks near the border, and one with the tusks distant.[9] Newman also discussed the different dies in the series.[10] Hodder, when cataloging the Norweb Collection, identified the dies and assigned them a numbering system.[11] The London and Carolina and New England reverses are die linked among each other, as are the two obverse dies. Hodder also noted the variation in the preparation of the planchets. Out of the eleven coins in the Norweb collection, Hodder identified four as struck on planchets cut from rolled strip, and five as struck on cast planchets.[12]

Breen, following up on Crosby's observation, noted that there were multiple weight standards.[13] This article can confirm that there were two weight standards. The weights of 72 different coins were collected and analyzed in a frequency table (below). The result is two peaks: one that corresponds to a light standard of about 143 grains (49 to the pound), and a second to a heavy standard of about 234 grains (30 to the pound). Breen stated that the coins were struck at five different weight standards: 30, 40, 46, 52 and 60 to the pound;[14] but the evidence currently available does not support this assertion.

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5 Thomas Snelling, M*iscellaneous Views of the Coins Struck by English Princes in France, Counterfeit Sterlings, Coins Struck by the East India Company, Those in the West India Colonies, and in the Isle of Man* (London, 1769):39; Gladfelter 1995:1511; Fulghum 2003: 2122.

6 Eric P. Newman, "Impact Dies in Modern Counterfeiting: An Elephant Token Never Forgets—Forgery," *The Numismatist* 78, no. 2 (February 1965): 164; Steimle 1995: 1482; Gladfelter 1995: 1511; Fulghum 2003: 2122.

7 Gladfelter 1995: 1511; Fulghum 2003: 2424–2425, 2427–2428.

8 Gladfelter 1995: 1511; Fulghum 2003: 2422.

9 Sylvester S. Crosby, *The Early Coins of America* (Boston, 1875): 338.

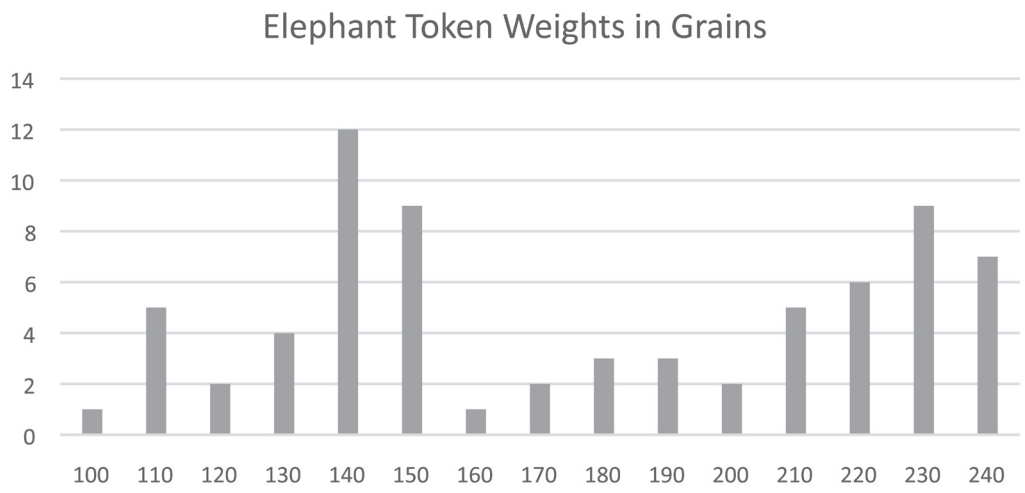
10 Newman 1965: 163–164.

11 Bowers and Merena Galleries, *The Norweb Collection*, Auction, October 12–13, 1987, lots 1227–1237.

12 Planchets cut from rolled strip: Norweb lots 1227–1228, 1235–1236. Cast planchets: Norweb lots 1229–1233.

13 Crosby noted that the two New England pieces known to him were struck at very different weight standards: Appleton's weighed 236 grains, Parmelee's 133 grains. Crosby 1875: 337; Walter Breen, *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins* (New York, 1988): 32–33.

14 Breen 1988: 32–33.



Thoresby, the earliest writer known to have written about these pieces, refers to the London pieces as the *African* Halfpenny.[15]

Snelling suggested that the term "God Preserve London" referred to a need for divine intervention during the plague (1665–1666).[16] This is unlikely; the "God Preserve" is just a general pious sentiment, which refers to no specific catastrophic event.

Snelling also suggested that the coins might have circulated among the English colonists during the short period that England controlled Tangiers in North Africa.[17] This is also improbable, but it has a significant point: It shows that Snelling, like Thoresby, thought the Elephant tokens had an African association.

These two assertions by Snelling led Peck to argue for the date of 1672 on the grounds that Snelling had focused on two events in the reign of Charles II (the Great Plague [1665–1666] and the English ownership of Tangiers [1661–1684]); Peck settled on 1672 because that was the year of the reconstruction of the Royal African Company, who, he believed, had issued the tokens.[18] But claims that the tokens were struck earlier, in 1665–1666 or 1672, are unlikely, given how prone old dies are to rust. Both Steimle and Gladfelter argue that all the Elephant tokens were struck in 1694.[19] A further argument in favor of the 1694 date is the link between the two obverse dies, Hodder 1 and Hodder 2. These dies are linked through Hodder's reverse dies E and F, which are not in fact different dies, but two states of the same die: The earlier state has the uncorrected error PROPRIETERS, the second state has the corrected spelling PROPRIETORS with the letter "O" punched over the "E." This die link indicates that obverse dies 1 and 2 were both used in 1694, and in close temporal proximity. This suggests that the entire issue was struck in a short period in 1694.

15 Ralph Thoresby, *Musaeum Thoresbyanum: or, a Catalogue of the Antiquities, and of the Natural and Artificial Rarities, Preserved in the Repository of Ralph Thoresby, Gent. F.R.S. at Leedes in Yorkshire: A.D. MDCCXII* (London, 1713): 379; Newman 1965: 164; Gladfelter 1995: 1511; Fulghum 2003: 2436.
16 Snelling 1769: 39.
17 Snelling 1769: 39.
18 Charles Wilson Peck, *English Copper, Tin and Bronze Coins in the British Museum 1558–1958,* 2nd ed. (London, 1964): 137–138.
19 Steimle 1995: 1487; Gladfelter 1995: 1512–1514.

The only Elephant token with a recorded find spot is one of the London types (Hodder 2-B), found while pulling down the old palace at Enfield, near London, in the summer of 1789.[20] There is no solid evidence that any of the Elephant tokens ever made it to America.

Having now reviewed the previous research, we will now turn to the newly discovered information, namely the evidence provided by John Houghton's *Collection for the Improvement of Husbandry and Trade*.

The 1690s were a boom period for initial public offerings in the London financial market. In 1694 the Bank of England was founded; the Bank of Scotland was founded the following year, in 1695. This history is covered in the works of Scott and Dickson.[21] This boom was accompanied by the emergence of a financial press. John Houghton issued a lively weekly newsletter that covered the financial markets (including sophisticated and pioneering articles about option strategies[22]) and giving prices of "Actions" (stock prices).

In Houghton's issue of November 9, 1694, the following advertisement appeared (the original spellings have been retained):

> Whereas the Lord Proprietors of the Province of *Carolina* in *America*, have lately made a Grant of all the Mines royal, and other Mines, with any other subterranean Treasure, that are, or shall be discovered in the said Province, the same being taken by the Company for the royal Mines Copper and other Work in *Cumberland* and elsewhere. These are to advertize, That any Person, well understanding Mines, Minerals &c. and the art of mining, may apply themselves to the Committee appointed for managing the same; sitting at Mrs. *Vernon's* Coffee-house in *Bartholomew*-Lane behind the *Royal Exchange* every *Tuesday* at four a clock in the Afternoon. And if desirous to serve the said Company in *Carolina* aforesaid, may have encouraging Proposals made them for the same.
>
> That there are Mines of extraordinary value in *America*, we need no other Evidence than the Treasure *Europe* now possesseth; which is supplied by a Yearly Import of Bolloin by the *Spaniards*.
>
> Also that there are Mines of equal Value with those possessed by the *Spaniards* in the vast and promising *Apalathean* Mountains which lie in *Carolina*, for 700 Miles in length and are 20 or 30 Miles over, we need not doubt, since they lie in the same degree of Latitude with *Mexico*, &c. and are very much noted by Writers for the great Treasure they possess; particularly *John de Laet*, of *Antwerp, Anno* 1633 in his History of the West-Indies; which is confirmed by the unanimous reports of the *Indians,* as well as those that have been Eye witnesses thereof who have brought from thence divers Minerals of good value even from the very surface.

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20 *Gentleman's Magazine* 60, no. 2 (1790): 595; "The Elephant Halfpenny," *American Journal of Numismatics* 11, no. 4 (April 1877): 94; John M. Kleeberg, *Numismatic Finds of the Americas.* Numismatic Notes and Monographs 169 (New York, 2009): 286 (NFA A81).

21 William Robert Scott, *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies to 1720* (Cambridge, 1910–1912); Peter George Muir Dickson, *The Financial Revolution in England. A Study in the Development of Public Credit, 1688–1756* (London, 1967).

22 Anne L. Murphy, "Trading Options Before Black-Scholes: A Study of the Market in Late-Seventeenth-Century London," accessed August 13, 2016, https://ore.exeter.ac.uk/repository/bitstream/handle/10036/14718/Trading%20options%20final.pdf?sequence=1.

> The Country is very plesant, and the most Southerly of all our *English* Settlement on the Continent, which gives it Preference in many respects to all others, it lying in the same latitude with *Barmoodoes* and the Land of *Canaan*, (a Climate so much celebrated) and plentiful in Provision both for Sustenance and Exportation; Beef being about 10s. the Hundred. Pork 14s. also Wheat, Rice and most other Products of *England* abound, that Trade and Settlement much increasing many ships going thither this Year with some hundreds of Passengers.

This advertisement reappeared in Houghton's issues of November 16, 23, and 30. To the advertisements on November 23 and 30, Houghton added the comment: "This Company is printed in my account of Actions [viz., stock prices] by the Name of the *Carolina* and *Cumberland* Royal Mines."

There are four common elements shared by this advertisement and the Carolina Elephant Token: (1) the Lords Proprietors, (2) Carolina, (3) the year 1694, and (4) copper. This is certainly more than mere coincidence. The persons who placed this advertisement are quite likely the issuers of the Carolina Elephant Token.

Houghton's Collection first lists a separate Carolina company in his table of "Actions" from June 8, 1694, through October 26, 1694. From the issue of November 9, 1694 onwards, the company had merged with the Cumberland Copper Company, which sought to revive the copper workings in Cumberland (around Keswick). This new, merged, company, the Carolina and Cumberland Royal Mines, was listed in Houghton's table of "Actions" until December 4, 1696, when the table was drastically simplified, with most of the companies dropped from the table. The only copper companies that remained were the Derby Copper Company and the Welsh Copper Company.

Houghton provides a new clue about the Carolina Elephant Token—its connection to the Cumberland Copper Company. Unfortunately, this new clue leads to a dead end. Although copper mining at one point was very active in Cumberland, notably in the sixteenth century at Keswick,[23] the attempt to revive the old workings in the 1690s seems only to be recorded in the pages of Houghton's periodical.

Fulghum has suggested that the Carolina tokens were associated with the Carolina Coffee House in Birchin Lane.[24] The advertisement in Houghton's *Collection* indicates that this does not seem to have been the case: The Committee of the Carolina and Cumberland Company met at a different coffee house, Mrs. Vernon's Coffee House in Bartholomew Lane. A Vernon's Coffee House existed at that address in 1690–1693, and was continued by his widow after that date, being active as late as 1702–1714.[25]

1693–1694 were important years for the English copper industry for two reasons, first for the clarification of the legal situation, and secondly for the opportunity offered by the reversion of the base metal coinage from tin to copper. One issue was the clarification of the legal situation of mines of base metals vis-à-vis the Mines Royal. A 1568 case, *R v. Northumberland*, had held that all mines of gold and silver in the realm belong to the monarch. It was further held

23 William Camden, *Britannia* (1586 edition) trans. Richard Gough (London, 1789) 3: 170; J. Fisher Crosthwaite, "The Colony of German Miners at Keswick," *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* 6 (1883): 344–354; Scott 1912: 2.387–388, 394, 396, 398, 400–401.

24 Fulghum 2003: 2433–2436.

25 Bryant Lillywhite, *London Coffee Houses. A Reference Book of Coffee Houses of the Seventeenth Eighteenth and Nineteenth Centuries* (London, 1963): 621, 647 (coffee houses numbers 1459 and 1533).

by a majority of the judges that where gold and/or silver was found mixed with base metals, these mines too were mines royal, which belonged to the monarch.[26] Since gold and/or silver is found, albeit with very small amounts, mixed into many veins of base metals, the Company of Mines Royal had a *de facto* monopoly on the mining of nearly all metals, not just gold and silver, in England and Wales. In 1688, however, this monopoly was overturned by the Royal Mines Act of 1688, 1 Will & Mary c 30. This 1688 law had to be clarified by the Royal Mines Act of 1693, 5 & 6 Will & Mary c 6, which declared explicitly that "noe Mine of Tin Copper Iron or Lead shall hereafter be adjudged reputed or taken to bee a Royal Mine although Gold or Silver may be extracted out of the same."[27] Once the legal situation had been clarified, there was a boom in the establishment of copper mining companies.

Another legislative impulse to the copper industry was the Exportation Act of 1694 (5 & 6 Will & Mary c 17), which made it legal to export copper from England, provided that it was made from English ore and was not sold to the French.

The second reason for the great interest in copper ventures was the opportunity offered by the reintroduction of copper coinage. From 1674 onwards, minor coinage had been struck in tin, with only a small copper plug added. By the early 1690s it was clear that this coinage was not adequate: it deteriorated rapidly and was too easily counterfeited, notably in cheap lead. England decided to revert to copper coinage once again. It was presumed that whoever received the concession to mint the copper coinage would make a fortune. This engendered the formation of companies in the copper business, on the grounds that the government would be more inclined to give the concession to a company that could promise that it would mint the coins from copper mined in England. Seven new copper mining companies were formed in the years 1691–1694.[28] In 1693, a coining concession was granted to Andrew Corbett, but it was revoked the following year and granted instead to Sir Joseph Herne and his co-adventurers.[29]

In January 1695/6 a complaint was made to Parliament about the copper halfpence and farthings produced by the patentees, because many of the planchets were cast rather than struck from rolled stock. The committee set up to investigate reported back on April 6, 1696, and absolved the patentees of any wrongdoing.[30] One reason for the use of cast planchets, rather than those from rolled strip, was because the patentees were developing a new source of copper: They sought to build up the English and Welsh copper industry, rather than obtaining the copper, as hitherto, from Sweden. Unfortunately English copper was brittle because it is only 97% pure, as opposed to the Swedish 99%, and was alloyed with arsenic.[31] The testimony to the House of Commons by William Dockwra and John Roettiers is of particular interest. "Dockwra, a member of the Copper Company which furnished the Copper, it appeared that the Copper used was English, so fine that it would make wire *very nearly as fine* as the Swedish Copper."[32] (Note that Dockwra qualified his praise of English copper, stating that it was very nearly as fine as the Swedish.) "Mr. Rotier [sic] said, he takes casting of Copper Blanks for Halfpence and Farthings to be the most proper way of making them; for that they can cast much faster than roll; and one pair of dies for casting will last longer than three pairs of dies for

26 Scott 1912: 2.385–386.
27 Scott 1912: .2.386.
28 Scott 1912: 2.430–439. Scott himself lists six, but since the Carolina and Cumberland companies were originally separate, the number is actually seven.
29 John Craig, *The Mint: A History of the London Mint from A.D. 287 to 1948* (Cambridge, 1953): 182; Christopher E. Challis, *A New History of the Royal Mint* (Cambridge, 1992): 373–374.
30 Rogers Ruding, *Annals of the Coinage of Britain* (London, 1817): 2.415.
31 Challis 1992: 374 note 363.
32 Ruding 1817: 2.415.

the roll; believes the cast Farthings to be as fine, and better coloured Copper, than those that are rolled."[33]

This was a logical procedure. Rolling copper resulted in work hardening, causing hardness and brittleness that took their toll on the dies. Moreover, the presence of impurities in the English copper (notably arsenic) also increased the hardness and brittleness of the copper. Casting planchets resulted in softer planchets that were easier to strike between the dies.

This evidence that it was the practice of the Mint in 1694 to produce planchets both through casting and from rolled strip is quite important. Hodder observed that Elephant tokens appear on both cast and rolled planchets. This manufacturing technique confirms both when the Elephant tokens were struck (1694) and where (the Tower Mint).

There remains the vexatious question of the adoption of the elephant as the obverse type. Although it has been suggested that it is just an eye-catching image,[34] the elephant image led both Thoresby and Snelling to associate the coinage with Africa.[35] There were several competing groups maneuvering to win the patent to issue the regal halfpence. One powerful ally that such a group might have sought would be the Royal African Company.

This is not because the Royal African Company was a major supplier of copper;[36] actually, it was a major exporter of copper to Africa, where it was used in trade (manillas). For example, at Calabar a male slave could be bought for 36 copper bars, and a female slave for 30 copper bars. Its exports of copper were actually re-exports of copper acquired from Sweden and Germany; the Royal African Company is not known to have exported English copper.[37] Interestingly, the only hiatus in the Royal African Company's copper exports were the years 1695–1697;[38] perhaps all the copper had been diverted to the domestic market, making the price unattractive for the company.

It is important to realize that monopsony power (the power of a single buyer) is just as effective as monopoly power (the power of a single seller). Since the Royal African Company was one of the largest purchasers of copper, it would have near monopsony power over the London market for copper. Furthermore, as a major trader in Swedish and German copper, it would have strong influence over the price of copper in that market, since it could arbitrage among the prices of Swedish, German, and English copper. Moreover, its large inventories of copper

33 Ruding 1817: 2.416; Challis 1992: 374.

34 Fulghum 2003: 2428–2432.

35 The statement, "The pieces known today as Elephant tokens are said by some to have been struck in England by or for the Royal African Company, but this can be dismissed since that entity was no longer active when these were made," is incorrect. In fact, the Royal African Company lasted until 1752. Kenneth Gordon Davies, *The Royal African Company* (London, 1957): 344–345. For the incorrect statement, see Q. David Bowers, *Whitman Encyclopedia of Colonial and Early American Coins* (Atlanta, 2009): 283.

36 Earlier writers made the error of believing that the Royal African Company was a supplier of copper. Peck 1960: 137–138; Richard G. Doty, "The Carolina and New England Elephant Tokens," *Studies on Money in Early America*, ed. Eric P. Newman and Richard G. Doty (New York, 1976): 92; Breen 1988: 32.

37 Davies 1957: 170–171, 230, 351. Although the general ban on copper exports from England remained in place until 1694, certain language in the Royal African Company's charter of 1672 would have permitted it to export copper. Thus it was able to engage in trade with Africa "any statute, Law, or grant, matter, custom, or privilege to the contrary in any wise, notwithstanding." Furthermore, "no Commissioner or other officer whatsoever that are or shall be appointed to manage the affairs of the customs … shall prevent any … merchandize from being exported from any of the outports in our Kingdom of England." "The Fourth Charter of the Royal African Company of England," *Collections of the Virginia Historical Society*, New Series 6 (1887): 48, 50. Its copper shipments also might not be subject to the export ban because they were re-exports of Swedish and German copper.

38 Davies 1957: 351.

would be a major influence over the price and availability of copper in that market. Thus any venturer that sought to enter the copper market would seek out the Royal African Company as a powerful ally.

Apparently, this plan did not work out, and the copper venturers found a new sponsor, the Carolina Royal Mines, later to become the Carolina and Cumberland Royal Mines. But either time or cost did not make it worthwhile to engrave a new obverse die, and the elephant die was used for the new venture. The prospect of yet another American market would have led to the issuance of the New England Elephant tokens. An analogous instance is provided by a venture of the official copper patentee Sir Joseph Herne, who had his fingers in numerous commercial pies. In September 1691 Sir Joseph received approval for his proposal for a company "for the north west parts of America."[39]

Unfortunately for Herne and the official patentees, the issuance of copper coinage did not turn out to be profitable. The Comptroller of the Patent testified to Parliament that the patent had not been profitable at all for the patentees, in fact, over the period from June 24, 1694 to November 24, 1695 the patentees lost £2,400.[40] The private competitors, who issued the Elephant tokens, would have had the same experience. Thus although they started out by issuing the heavy standard tokens, upon discovering of how little profit could be made from coining copper, they would have switched to the light standard.

In conclusion, the following hypothetical explanation is proposed for the existence of the Elephant tokens: The Elephant tokens were issued by a rival copper venture to Herne and the official patentees. It seems possible that these copper venturers initially planned to issue their tokens under the aegis of the Royal African Company, with an elephant die as that company's emblem. This did not work out, so they associated themselves with the Carolina Copper Mines Company, but re-used the elephant die.

39 Andrew A. Hanham, "Joseph Herne (1639–1699)," in *The History of Parliament: The House of Commons 1690–1715,* edited by David Hayton, Eveline Cruickshanks, and Stuart Handley (London, 2002).
40 Ruding 1817: 2.416.

An Edinburgh Hoard of Counterfeit British Halfpence: Cottage Industry Coiners

by
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Four years ago this author was able to purchase an intact hoard of 36 counterfeit British halfpence that had passed between two dealers, one in the UK and one in the US.[2] It has been thoroughly documented that the most prevalent copper coin in Colonial America was the counterfeit British halfpenny—indeed, the economies of the various colonies and early states, especially those in the north, would have collapsed without this coinage in circulation.[3] Counterfeit British halfpence remained the predominant copper coin in circulation in America for a decade after the establishment of the US Mint. We know this from countless newspaper accounts concerning counterfeits on both sides of the Atlantic. In 1787, a report from the Tower Mint in London found that just 8% of the copper coin in circulation had "some tolerable resemblance to the King's Coin."[4] If only that percentage of circulating copper in England was regal, one would expect the former colonies to have even fewer genuine halfpence in circulation as the better coin tended to remain at home, or return there in trade. Of course, the main proof that counterfeit British halfpence were the backbone of the colonial economy is literally on the face of many of the state coinage issues of the period.[5] The Connecticut and bust-style Vermont coppers, which accounted for well over half of the total number of coins struck in America between 1785 and 1788 were closely modelled on the British halfpence, and the Atlee/Machin's Mills halfpence imitated them exactly in legend and design, with just the dates occasionally different from regal issues.

In the March 16, 1786 issue of *The Massachusetts Spy* it was noted that "nearly one-half of the copper coin in this country for twenty or thirty years past has been of a base kind manufactured at Birmingham in England; however, it crept into circulation and did... pass for the same value as those which are genuine." A report by the New York legislature a year later stated that "[a] very great number of pieces in imitation of British half pence, but much lighter, of inferior copper, and badly executed—These are generally called by the name Birmingham Coppers, as it is pretty well known that they are made there, and imported in casks, under the name of Hard Ware, or wrought copper."[6] We know that vast quantities of counterfeit coppers made it

1 The author would like to thank Phil Mossman, Gary Trudgen, and Christopher McDowell for their editing prowess and thoughtful suggestions and criticisms which have made the paper much stronger than what was originally submitted. Colonial numismatics is fortunate to have such dedicated researchers who share their time and expertise.

2 Many thanks to dealer Karl Stephens who recognized the importance of the group staying together and sold them with the understanding that they would remain together and be researched more fully. Hopefully the present article fulfills that promise.

3 The best recent look at the role counterfeits have played in colonial and early America is Phil Mossman's 2013 work *From Crime to Punishment: Counterfeit and Debased Currencies in Colonial and Pre-Federal America*.

4 C. Wilson Peck, *English Copper, Tin, and Bronze in the British Museum*, 1558–1958, 1970, p. 214.

5 Mossman, *From Crime to Punishment*, gives a detailed account of the documented shipments of regal coppers to the North American colonies—and estimates a minimum of 33 million regal coppers sent over; most of those would be returned to England in the course of trade, as British merchants would be hesitant to accept counterfeits when good coin was available. Mossman (p. 130) estimates that the volume of counterfeits far surpassed the regal issues sent over—and were many times the amount of roughly 12.5 million state copper issues of 1785–1788 (including the Fugio coinage of 1787).

6 These and other contemporary sources can be found on the University of Notre Dame website operated by Louis Jordan. The section on contemporary British counterfeits can be found at: http://www.coins.nd.edu/ColCoin/ColCoinIntros/CtfBrit.intro.html and is a very useful primer for the series and gives other

from England to America—and we also know that some almost made it. In 1785, *The Faithful Steward* sank off the coast of Delaware with a cargo that included an immense number of counterfeit halfpence, some of which continue to wash ashore to this day.[7]

The contents of the current hoard, while not actually colonial coins per se, should be of interest to those studying Colonial American numismatics. Not just because they were struck at roughly the same time as many of the colonials we cherish and by the exact same methods, but because of the similarities between counterfeits struck in England and the various counterfeits struck in America, including examples in each of the state coinage series. An examination of the methods employed by British counterfeiters to manufacture and distribute the output of their bogus mints will help us better understand how American counterfeiters, many of whom were recent English immigrants, conducted their operations. While American and English counterfeiters may not have operated exactly the same, it is fair to assume that there were more similarities than differences in their production of George II and III counterfeits. For this reason, if for no other, it is important for Colonial American numismatists to understand how British counterfeiters conducted their business. Of course, we have ample proof that great quantities of counterfeit British halfpence actually circulated in the colonies and early United States—whereas some of the other pieces made elsewhere, but long accepted as part of "American Colonials," have had little (if any) presence in either the archaeological or historical record in this country.

The number of coins found in this hoard is interesting since the monetary system in Britain in the eighteenth century used shillings and pence for smaller sums. At the time this hoard was hidden, there were 12 pence to a shilling, so a hoard of 36 halfpence equaled 18 pence or exactly 1 ½ shillings. This amount does not seem like much today when we have a concept of a shilling being 1/20 of a Pound. With the Pound currently trading at well under $1.50, if the shilling denomination were still coined today, it would be equivalent to 8 cents, or about the same as the British 5-pence piece coined since decimalization.

But to someone living at the end of the eighteenth century, when these counterfeits were struck, the sum was more substantial. Lodging—then, as now—was rather expensive, and if you wanted to share a bed in an inn it would set you back twopence a night, so this hoard would have provided nine nights of shared lodging or five nights in a private room. In terms of the other areas needed for sustenance of body and soul, 36 halfpence could purchase 24 meals of bread, cheese, and vegetables or 12 meals that included meat, broth and beer.[8] If the coins were spent solely on alcohol, they would yield a bit over 4 gallons of beer in a late eighteenth century tavern. If a man required stronger fortification, the amount would purchase a little over a half-gallon of gin, which would certainly take the sting out of a cold British winter.

While wages depended greatly on the year, place, occupation, age, and gender of the worker, 1s. 6d. (to give this sum its proper British notation) would be roughly a week's wages for a domestic servant, or pay for a couple days of heavier labor, such as hiring a strong boy to

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sources the collector may want to look into. Some sections of this page have not been brought up to date with current thinking, but we suspect this will be done as more is published on the series.

7 John M. Kleeberg, "The Shipwreck of the *Faithful Steward*: A 'Missing Link' in the Export of British and Irish Halfpence," *Coinage of the Confederation Period*, ed. by Philip L. Mossman, Coinage of the Americas Conference, Proceedings No. 11, held at the American Numismatic Society, Oct. 28, 1995, (New York, ANS, 1996), pp. 55–77. Earlier finds from this wreck were identifiable, while the more recent ones show the effect of 200+ years of saltwater immersion and are now round pieces of copper that would not be identifiable except for the fact of where they were found, an area now known as Coin Beach.

8 Mary Dorothy George, *London Life in the Eighteenth Century*, (London, 2nd ed., 1966).

chop wood.[9] So, while the amount would not allow a life of luxury, it was certainly enough for a laborer to miss if lost or to appreciate even more if found.

The hoard was discovered hidden in the walls of a "new house" that was being torn down in Edinburgh, Scotland. I was amazed that such a thing would be found in a new house—but there the differences between the opposite sides of the Atlantic were evident. In my hometown of San Diego, a house built in 1920 is considered old. But context here makes all the difference. The house in Edinburgh that was being torn down was the newest building on that particular block—it just happened to have been built in the early 1700s while it was surrounded by structures built in the 16th and seventeenth centuries, so it was considered quite new in comparison, and was easily permitted for demolition as such.[10] If the hoard was originally placed behind the wall in a cloth pouch or something similar, the fabric had long since deteriorated; not surprising given Edinburgh's chilly and wet climate as well as hungry insects or rodents that might have feasted on cloth but did not have a taste for copper.

This article will examine the hoard coins first in their entity, and then look at the individual coins more closely. The coins are all counterfeits, and the group consists of just two types, 4 examples of one and 32 of the other.[11] The sheer number of the second variety immediately suggests that this was not a random assemblage received in change. While a couple centuries hidden behind a wall have dulled the surfaces, upon examination the coins are all basically as struck. There is no evidence of actual wear on any of them, even if none now exhibit full mint red or blazing luster; however, all have some surface problems as a result of the environmental damage expected from such a hiding place. It should also be noted that "as struck" does not imply "well struck" since most examples show weak strikes in areas or other anomalies that indicate that little effort was made to have the finished products look its best.

The fact that there are just two varieties present in this group suggests that either they were made at a location in close proximity to where they were found or they were made elsewhere and the home's owner or renter had the task of getting the counterfeits into circulation. The second option means that the person living at the home was either working in concert with the actual counterfeiter or there was a nearby location to acquire groups of counterfeits at a discount to face value. In an era with few banks, merchants were often short of small change and there were people willing to fill the void by supplying counterfeit coins or merchant tokens to keep the machinery of commerce well oiled. If the manufacturer or suppliers of these counterfeits and tokens made a profit, it was only fair since he was risking prison and financial ruin for making counterfeit coppers and potentially death for striking silver or gold coins if caught.[12]

9 Ibid. See, also https://www.oldbaileyonline.org/static/Coinage.jsp for an overview of the purchasing power of British money from the 1670s up to the advent of World War I.

10 This information came from the UK dealer who first purchased the hoard.

11 This second variety, looked at in detail later in this paper, was reasonably rare before this hoard was found. The hoard will remain intact, so even though the variety itself is now fairly common, it actually will remain difficult to find—a useful lesson in the relativity of rarity ratings perhaps.

12 The Counterfeiting Coin Act of 1742 did allow for death by hanging—but only after the third offense. This act also provided a generous reward of £10 for information leading to a conviction and £40 for anyone who apprehended a counterfeiter on their own. The 1742 Act prohibited the counterfeiting of halfpence and farthings, with a penalty of two years in prison and surety given for two further years of good behavior. Despite this, there seems to have been few counterfeiting trials. A further strengthening of the Act in 1771 made it a felony to export counterfeit coppers—which also seems to have had little impact since these counterfeits continued to circulate widely in England and were exported both to Ireland and the American Colonies in bulk. In 1797, a further Act made it an offense to counterfeit any coins made of copper, which was the beginning of the end of the eighteenth century provincial tokens (also known as Conder tokens). Of note this Act stipulated that prosecution had to be made in 3 months or else the accused would be acquitted and be paid triple his costs by the prosecutor. This may have limited the number of counterfeiting cases that were investigated or tried.

The strongest reason for purposely hiding a group of coins in such an inaccessible place is that the police or other officials were suspicious of the person residing in the house. One or two coins could certainly be accidentally dropped, perhaps rolling under a loose floor board or into a privy. But there is no plausible way for 36 newly-minted coins to accidentally get lost in the same exact spot—and to only lose coins that happened to be mostly of one variety and a few of another seems highly improbable. As such, the evidence points to the fact that these coins were purposely hidden. The sum is not substantial enough to suggest someone hiding their wealth for a rainy day or in times of danger or war (a hoard of silver or gold pieces would immediately suggest that, but not a small group of copper coins). The fact that the hoard was never retrieved after it was entombed suggests one of two things—ether the hiding place was forgotten or too difficult to access (why cause 10 shillings damage to a wall to retrieve one and a half shillings in counterfeits?), or whoever put the coins in the wall was no longer around to retrieve them; perhaps spending time behind bars. The hoard was not secreted by some innocent person—you would not receive 36 halfpence in change in a single transaction, and if someone did manage to receive that many counterfeits, they would go back to where they got them and demand good coin or get rid of the bogus coinage as fast as possible by putting them back in circulation and letting someone else deal with the matter. We can never know the actual circumstance about why they were lost or the identity of who coined them, but educated guesses are often the best a historian can do when there are no primary source documents available

The house where the coins were discovered was in the heart of Edinburgh's Old Town and, as with most houses from that era, was rather small by today's standards despite being multistory. Edinburgh's Old Town was densely populated as it was safe within the city's protective walls, which enclosed the area, creating limited space for new construction. Therefore, even in the eighteenth century, if you wanted to build new dwellings your only option was to build upwards, not outwards. As the defensive walls became less useful with the advent of gunpowder and cannon, the city fathers started building New Town, just a short distance away—a necessity since Old Town was not only congested, but unsanitary. After New Town was built, the population of Old Town dropped from a high of 80,000 to just 4,000[13] or so a century later—which offers another reason why the hoard may not have been located, since whoever lived there and secreted it may have moved to a new home and not been able to get back and recover the hidden coins.

The Old Town setting at this time, with its many people, narrow buildings and still-crowded streets would clearly not allow for a large-scale counterfeiting operation, complete with large presses, die-making tools and the necessary foundry equipment to smelt copper and roll out sheets to make planchets. Rather, this location strongly suggests small-scale counterfeiting—something more akin to the "cottage industry" model that was just being displaced in areas like lace and cloth making, weaving, sewing and other types of labor that were once parceled out, mostly to women and children who could work at home and get paid for the quantity of work they performed, regardless of how many hours it took them to do it. With the dawn of the Industrial Revolution these cottage industries disappeared; machinery could do the same jobs faster, cheaper, more consistently, and could run day and night if need be. Instead of bringing the work to the workers, the Industrial Revolution flipped things around and brought the workers to the work, which in this case meant enormous factory buildings in the larger towns. But that same Industrial Revolution that took away some cottage industries created others in its wake one of which was small-scale counterfeiting. Since the whole concept of working from home was already ingrained into the psyche of the people, the business model would not be

13 New Town was built in several phases starting in 1767 and not completed until the 1850s. By the time the counterfeits in this hoard were struck, probably in the 1790s, Old Town still had a population of roughly 30,000 people, far from its highest level, but also not exactly deserted.

unusual, even though the product might be. Indeed, Scotland has probably long seen some counterfeiting—an exhibit currently at the Scottish National Museum in Edinburgh displays several counterfeit and regal earlier coinage issues, from the 1300s to the early 1700s, in gold, silver and copper. Edinburgh was one of many towns in Scotland that struck regal coinage, but after King James III died in 1488 nearly all Scottish coins were struck in Edinburgh—and the museum has a wonderful display not only of coins, but also of dies, tools, and some small equipment that miraculously survived from the seventeenth century.

While today counterfeiting is seen as wrong and unquestionably illegal, this was not always the case in eighteenth century England. There were long stretches of time when the authorities turned a blind eye to counterfeit copper coinage (though they would never do so for silver or gold). The Royal Mint had no interest in coining copper, and it never issued enough to meet even a fraction of the needs of the growing trade economy at home, and much less so in its far flung colonies like North America.[14] Counterfeit coppers as well as the "Conder tokens"[15] and evasion copper issues of the late eighteenth century[16] filled that gap between production and demand for a couple decades. The Royal Mint did not strike any copper coinage for England after 1775 (though it did produce a lighter coinage for Ireland sporadically until 1782). Unfortunately for England, this was the exact time that businesses were expanding and the populations of large cities were swelling as workers flocked to factory jobs. Those same factories required coins for payroll and workers needed small change for day-to-day transactions, as well as money with which to purchase the very goods the industries were producing in quantity. Some enterprises, like the Parys Copper Mines in Anglesey (Wales) took matters into their own hands and literally created their own money—they issued the first of the so-called Conder Tokens, of good weight and excellent workmanship (though these were soon counterfeited at both lower weight and quality). Others took the less noble route and turned out counterfeit coins and tokens by the ton. When a batch of slightly lightweight pieces was accepted into circulation, the next batch might be a little bit lighter still, continuing until a counterfeit halfpence often weighed less than a regal farthing.

And yet they were accepted. These token manufacturers and counterfeiters learned what the United States (and much of the rest of the world) would not learn for over 150 years: in times of need, people will make do with whatever coinage is available. The lightweight tokens,

14 This despite the fact that the Crown made a much higher profit—nearly 10%—on copper coins than it did on silver or gold since those issues had to contain nearly their face value in precious metals.

15 This term is not popular in England for the simple reason that James Conder did not write the first—or even the best—book on these tokens, and he listed only a small fraction of what is now collected in the series. The British prefer the term "eighteenth Century Provincial Tokens," which is still a bit vague since the tokens in question did not encompass all of the eighteenth century (they started only in 1787) and a few were struck into the early years of the 19th century. American readers and collectors, however, are used to the phrase "Conder Tokens"—and indeed have used that as their club name as well. Old habits die hard, and we will use the term here, with apologies to British eyes. When the phrase is used in this paper, it will refer to the eighteenth century token series as a whole, not just those tokens issued or listed by Conder.

16 Evasion coppers are halfpence or farthing-sized coins that generally mimic regal coinage by having a bust on one side and a seated figure or harp on the other, but with legends that are different from a regal (or counterfeit coin); such legends could be very similar—GREGORY III PON instead of GEORGIVS III REX, or HILARIAS instead of HIBERNIA—or could be more historical in nature, such as a bust with the legend OLIVER CROMWELL or SHAKESPEARE. These issues came into being because judicial interpretation of the law stipulated that a counterfeit must be an "exact similitude" of a coin—by changing the legend their makers evaded the letter of the law—at least until the 1797 Act cited above. The British court was also divided on whether counterfeiting copper coins was the same level of crime as silver or gold, since the value of a regal copper was still well below its face value, eventually deciding that counterfeiting them was a crime, but passing them was not. See, Mossman, *From Crime to Punishment*, p. 117.

counterfeits, and evasions became a form of "fiat money."[17] No one expected a full halfpenny worth of copper in a regal halfpenny coin, as it was understood that there were costs for production and transportation, and the price of copper fluctuated wildly for years (especially as the Industrial Revolution led to the discovery of more copper mines, depressing prices, but fueling more demand to turn that metal into machinery and salable objects which raised prices back up again); this meant that even with a Royal Mint product the "melt value" was going to be quite a bit less than the face value of the copper (silver and gold were much closer to their melt value, at least as long as the metals stayed at their same historic price levels). People of the time agreed that the "round and brown" thing circulating was valued at a halfpence for the purpose of trade, nearly regardless of its weight or issuer (though ridiculously underweight pieces might be rejected when there was enough good copper in circulation to fill that community's needs).[18] We live in the aftermath of that world today—the metal in our quarter dollar is worth roughly three cents, but we have all agreed that this disc of copper-nickel is actually worth twenty-five cents. The difference between today and late eighteenth century England is that now the profit from the discrepancy between face and melt value goes to the government, whereas most of the profit back then went to the counterfeiter or the token issuer since the Royal Mint could not be bothered to supply sufficient regal copper.

The discovery of any large-scale counterfeiting operation of gold or silver money was bound to attract public attention and, for those involved in the bogus money industry, such publicity was most unwelcome. The strict anti-counterfeiting laws of the day could demand harsh penalties but, except for those convicted of forging gold coins, most offenders rarely received the maximum punishment. There were really only two ways a counterfeiter could successfully operate. The first was to run a small-scale operation that would not attract attention from the authorities unless an attempt was made to pass too many of their wares at the same time or place; the other alternative was to hide the counterfeiting facility in plain sight—such as within an established business that did something at least vaguely similar. A bakery that was receiving constant shipments of copper would certainly invite questions from the authorities whereas a button manufacturer, brewery or other business that utilized large quantities of metal, especially copper, would not arouse suspicion.

Most of the above industries just mentioned were situated in and around the industrial city of Birmingham, which had been a hotbed of counterfeiting for at least a half-century. The output of bogus money coins from this city so far exceeded counterfeits produced elsewhere else in England, that fake coins earned the evocative title of "Birmingham coppers" or just plain "Brummagems."[19] Given the other industries in the area that were producing metal objects, it is not surprising that Birmingham became the location for many token manufacturers; at least some of whom are known to have crossed ethical lines by issuing lightweight versions of the legitimate tokens they struck for others, leaving those businesses to pay up if and when the tokens were redeemed for specie, which was at least the implied promise of their issue and acceptance.[20] Indeed, just two large token manufactures in Birmingham appear to be

17 George Selgin's 2011 book Good Money: Birmingham Button Makers, the Royal Mint, and the Beginnings of Modern Coinage, 1775–1821 explores this subject in detail and explores the paradox that Gresham's Law was both right and wrong—bad money did drive out the good (the counterfeits and evasion coppers circulated and the regal copper coinage disappeared), as predicted. But then a lot of good money was finally issued, which drove out the bad (the Soho mint coinage led to the abrupt end to counterfeits, evasions and the Conder Token issues being produced or even accepted in commerce, even those that were relatively good weight).

18 Ibid.

19 "Brummagem" is the name for Birmingham in the local West Midlands dialect—the name also used derisively for the low-quality and flashy-but-cheap wares that the city produced. The name stuck to both the counterfeit and evasions coppers that were also made there in quantity.

20 The earliest Conder tokens all had the name of the issuer on the token, and a place of redemption, usually on the edge. These tended to be quite good weight—equal to (and often better than) the regal

responsible for nearly 90% of all known evasion copper coinage between them, as well as perhaps a quarter of all Conder tokens. It would not be much of a step from minting evasions or tokens to making counterfeits. In fact, there are a few instances where dies are muled between the counterfeit, evasion, and Conder token series, which is strong evidence of common production.

While most collectors assume that the period of Birmingham's prominence in the field of counterfeiting was the same as the era of the Conder tokens—the late 1780s into the late 1790s—it was actually a center for this trade long before that time. Indeed, in a letter published in the November 25, 1752 edition of *Gentleman's Magazine*,[21] it was noted that in 1745 the city was visited by the solicitor of the mint who had been tipped off that counterfeits were being produced there, and that "several offenders were taken into custody and brought to justice, being tried at the county Assizes and ordered to suffer two years imprisonment."[22] That two-year sentences were the maximum punishment allowed under the law at the time for counterfeiting copper coins. This law was changed in 1771 to make both the striking and/or distribution of counterfeit royal halfpence felonies; though this seems to have had little or no impact on illicit production considering the manufacture of counterfeits increased after 1771.[23]

The same *Gentleman's Magazine* letter writer noted that these earlier counterfeits, which were cast coppers, usually in a brassy alloy that was cheaper and whose lower melting point was easier to work with than copper, were driven out of circulation after merchants refused to accept them in trade, but that by 1751 "the practice of making counterfeit halfpence was revived with this improvement, that whereas they were before cast in sand, they are now made in a stamp or press."[24] Even at this early date, Birmingham was a powerhouse in manufacturing, which it had focused on as far back as 1680. In the period of 1700-1750 the population of Birmingham quadrupled, and by 1775 it was the third largest city in England. No less of an authority than Matthew Boulton remarked as early as 1770 that "by the many mechanical contrivances and extensive apparatus which we are possessed of, our men are enabled to do from twice to ten times the work that can be done without the help of such contrivances."[25] The machinery was certainly in place in Birmingham, as were skilled workers who knew how to produce what was

halfpence that were disappearing from circulation. As expected, counterfeits of these good quality tokens soon appeared, followed by issues with fictitious names or without and place given for redemption into hard currency.

21 This letter was signed only with the initials E.Z. and was stated as coming from Birmingham. It was the practice in the eighteenth century to use only initials or fictitious names (often drawn from classical literature) when publishing in this sort of venue—a true gentleman did not seek the limelight, by signing his own name to published letters. This practice was also wise in an era where freedom of the press was far from absolute and the Crown could take action if their abilities were called into question—such as their provision of money for their citizens.

22 All quotes from eighteenth century sources herein have had spelling, contractions, and abbreviations modernized to make them easier to read, but no actual words have been changed.

23 The number of counterfeits of the new George III coinage for England (1770–1775) and Ireland (1766–1783) far exceeded the actual number of regal specimens struck by the Royal Mint—by many times. In his 1886 work *Batty's Descriptive Catalogue of the Coinage of Great Britain, Ireland, British Isles and Colonies*, D. T. Batty lists 567 different varieties of George III British coppers dated 1770–1775. Of that number 52 were genuine and 515 were counterfeit. In the century plus since the publication of Batty's work far more counterfeit varieties have been found, and for the George III issues the number of varieties is in the thousands.

24 Following this letter the editor notes that the tradesmen of Abingdon (then part of Berkshire County, now part of Oxfordshire County) had resolved "to take no more Birmingham halfpence and hope the tradesmen of other towns will follow their example." Since the output of the counterfeit mints in Birmingham continued to grow, one must assume that this refusal was short-lived—especially when there was no other substitute for small change!

25 Eric Hopkins, *Birmingham: The First Manufacturing Town in the World, 1760–1840,* (London, Weidenfeld & Nicolson, 1989), p. 7.

needed, so it is no wonder that the city kept its position as the epicenter of counterfeiting in England until at least the beginning of the 19th century.[26]

One of the most infamous Birmingham token makers was William Lutwyche who operated his business out of his home across the street from the main church.[27] In a 2013 visit to the city by this author, what is thought to have been Lutwyche's house was located—one of several houses facing the main church (now a cathedral); unfortunately the exact address was never given in the records, and the houses have been modified in the intervening centuries with additional stories added and some combined to create larger residences. As originally constructed in the 1760s, each presumably had a small back yard (though all have since lost that outdoor space) and was just a few streets away from the main business district of the city. Not exactly the venue for a large-scale manufactory, yet there is sufficient contemporary evidence that this was the place Lutwyche struck his tokens in the mid-to-late 1790s, the era that the counterfeits in this Edinburgh hoard were most likely struck.[28] Lutwyche advertised his business on several of his tokens since striking such metal objects as he did was not illegal, and it made sense to advertise his trade, especially when he was capable of producing pieces of such good quality. The one main problem being located in a city full of people conducting the same business is that you end up fighting for the same customers. Businesses can undercut each other on price, slashing profits in the process, or they can decrease the quality of what they sell and hope that it is not noticed or matters much to the buyer.

Lutwyche, a slippery character who left little trace in the historical record other than his tokens, was in the unfortunate position of not being able to compete on quality, for just a few miles away Matthew Boulton constructed his magnificent Soho Manufactory, harnessing steam power with massive engines built by his business partner James Watt. Boulton and Watt literally turned industry on its head, producing high quality products at a fraction of what they cost just a few years earlier. Boulton did not just make cheap products though—he invested heavily in design and hired artisans to finish products so that his wares appealed to every level of society, from royalty down to commoner. Boulton soon included token minting in his group of industries in the hope of getting a contract to strike copper coins for the British government since the Royal Mint was clearly not up to the task. Once his firm started striking tokens they instantly dominated the high-end range of the market. The Soho Mint output was struck on perfectly round planchets

26 Old habits die hard, and as recently as 2014 Birmingham again made the news with the capture of four people in the city who counterfeited £1.3 Million Pounds worth of £10 notes—on their own firms' printing presses over a Christmas holiday (Daily Mail, January 13, 2014) While not exactly the same as counterfeiting coins, it does show the locals' ability to adapt to the times and use the available equipment. Unlike the 1790s this group received prison sentences of four and a half to seven years—but a large proportion of the counterfeit notes had already made it into circulation.

27 The staff at the new Birmingham Library's Rare Book room was helpful in locating the probable house used, though there was little in the printed record concerning Lutwyche. At the time Lutwyche was in this house street numbers were not in use and the address in the records was just "St. Phillips Churchyard"—an address that could have applied to many dozen different residences, since the courtyard extends all the way around the church. Although the records aren't clear, it appears that Lutwyche moved to this address only in 1796, taking it over from William Mainwaring who had died in 1794; Mainwaring was responsible for making many of the dies used by Lutwyche, and the latter apparently bought his dies, workshop and actual residence after his death. David Dykes, *Coinage and Currency in Eighteenth Century Britain, the Provincial Coinage,* Spink, 2011.

28 Lutwyche's earlier venue for striking tokens is unknown. Some records indicate that he was a grocer and tea dealer prior to striking tokens (and someone of the same unusual name was again listed as a grocer in a directory from 1800, right after the token coinage would have ceased). If this is the case, a small press could have certainly been operated in his own place of business—and some of the resulting coppers given out in change right there. It is possible that the higher profit margins that minting tokens initially gave might have temporarily tempted him from the grocery trade, which was highly competitive and operated at much lower margins.

of exceptional quality and good weight, with dies cut by the leading engravers of the day. The steam powered coining presses could strike tokens much faster than a screw press (cutting down on labor costs) and even add fancy edges (at no additional cost to the buyer while other minters had to charge for this since they needed to apply the edges to blank planchets before they were struck). Lutwyche could not compete with the Soho Mint when it came to high quality products so he pursued the lower end of the market. Instead of high quality tokens made for others (the initial thrust of his business), he soon turned to counterfeiting tokens of others (and even those of his own customers), issuing vague tokens that provided no person or business where they could be redeemed, as well as extremely lightweight evasion coppers and almost certainly counterfeit copper coinage as well. The trajectory of the quality of his work was steadily downward, yet he struck many tons of coppers and certainly made a profit for a half-decade or more. He abandoned the business only after the Soho Mint was awarded a contract to strike official copper coins for England and Ireland and Lutwyche could see the writing on the wall—his lightweight material would soon have no market (though it seems he did continue striking a few legitimate trade tokens up until 1800, perhaps moving his small press to his new grocery business).[29]

Lutwyche's home and place of business in Birmingham[30] tells us a lot about how he and other Birmingham small-scale token and counterfeit manufacturers operated. There was no space for all the complex machinery required to manufacture everything needed for coining. The Soho Mint had both space and sufficient capital to keep all the production under one roof—from the procurement and smelting of copper, to making planchets, dies, building presses, striking tokens, and packaging and shipping them off to customers. No other coiner had the luxury of doing business on this kind of scale.[31] We know, based on signed dies, contemporary records, and stylistic similarities that each of the token makers hired freelance engravers to make dies, including members of the illustrious Wyon family, and John Gregory Hancock who also made some dies for pieces now considered American colonials, but there were many working engravers who never signed their work and are now lost to history. No token maker had a monopoly on any single engraver—when they got a commission for dies they hired whoever was available. If someone paid more for a very fancy or intricate die, then they hired one of the better engravers; if they just wanted a more generic token of little artistic merit it was probably given to whoever could do the job the cheapest or quickest. Again, in a throwback to

29 Lutwyche's last year of coining appears to be much like the coiners responsible for the state coppers in the early United States. There seems to have been a flurry of coinage at the very end, with mulings of unrelated dies, dies that were broken and barely holding together, and using whatever copper stock was available to make some of the worst-quality planchets, just to get them finished and out the door before the market crashed. In the case of the American minters this happened with the Coppers Panic of 1789, while Lutwyche's exist was almost exactly a decade later.

30 Some sources mention a shed on the side of the house as being where the coining took place—though the house suspected to be his is in the middle of the block, and a shed would have either been at the rear of the house or perhaps adjacent to one of the neighboring houses and rented by Lutwyche; if it was at the rear of the building it would have been perhaps 10 feet wide on each side, if at the side of a building probably half that width but perhaps 15 feet in length. These estimates are based on how the houses appear today; unfortunately records have not been found to show exactly when each of these houses were built or what the original dimensions were, so it is possible that there was originally some space between houses that was later built over and reclaimed as indoor space. However, even if this did happen, the point is that there was not much room available here for a large coinage operation—especially with neighbors just a few feet away.

31 Although Soho had the ability to do all this, it was usually more economically feasible for Boulton to purchase planchets from other sources—especially when he was striking tokens for copper miners who had the metal right there and could produce their own planchets but did not have the necessary skill or machinery to strike tokens. In these instances Boulton would receive the copper at a slightly lower price than he could usually buy it at on the open market, and he would not have to lay out any money to purchase it as the price of the metal would be netted out against the final cost of the tokens delivered.

the old cottage industry model, the engravers most likely cut the dies in their own shops, with their own tools and got paid for the finished product, regardless of how long it took to create.[32] We also know that most of these smaller manufactories did not have the capability of producing planchets. Some could have the equipment to cut planchets out of copper sheets, since this was not a very complicated or expensive machine, but it was a labor and time intensive operation to conduct by hand, even more so if the customer required a lettered edge on the token that had to be applied to the blank planchets before striking—adding another step to the process and more expense for time, labor, and equipment. The Soho Mint could afford this luxury but most others could not. And they did not need to, for they were located in Birmingham—the center of, amongst other trades, button manufacturers. Buttons at the time were both utilitarian as well as fashion accessories, and ran the gamut from plain pieces of metal to extravagantly decorated pieces of art, gilded and with semi-precious jewels added by hand. But when it comes down to it, a button is a round thing punched from a sheet of metal—similar to a blank planchet. A round disk of copper could be crafted into a button or a token or counterfeit coin. The equipment that button makers used to produce buttons would allow for a wide range of sizes, and the machinery for rolling copper ingots into sheets to punch the buttons could be adjusted to different thicknesses. There is no reason why button makers, who already possessed the equipment needed for making planchets, would not go into a side business, especially since their best customers were literally right down the street and they were breaking no laws by producing round pieces of blank copper. This was a win-win situation for both industries—it gave additional profit to button makers, it saved the token manufacturers the expense of trying to make their own blank planchets, and they could simply order what they needed, when they needed it, and not have to keep an expensive inventory of blanks on hand.

The edge lettering on most Conder tokens adds a small wrinkle to this story. This was most likely also done by the button manufacturers—though even the larger ones who could afford steam engines would still need to do this kind of detail work by hand (the segmented collar allowing for an edge to be applied during the striking process was not yet available to smaller coiners and the planchets all had edge lettering or design added to them before they were struck). This was time consuming since each individual planchet had to be placed into a machine and hand cranked—two sets of engraved plates each applied lettering to half the circumference with a couple twists of a handle, then the planchet needed to be removed and a new one inserted. Mind numbingly boring labor perhaps, but little different so far as mental stimulation from the work found in the textile mills or other manufactories that were springing up all over England. Because this kind of labor was unskilled, there is the possibility that instead of having it done at the button manufacture's shop, it was parceled out in the fashion of the cottage industry model, though this would require transporting large amounts of blank planchets to and from various homes, as well as multiple sets of edging machines being made available to the people who did the work, so this is less likely than it having been done either where the planchets were produced or where they were later struck. Another possibility is that there was a central merchant who ordered the blank planchets from the button makers and then took orders for

32 This is suggested by the fact that at least one of the coiners, John Gregory Hancock, Jr., made numerous trial strikes of his dies as they were being cut—including issues now collected with the US Colonial series, such as the Washington large and small eagle cents. These die trials were all in his estate when he died in 1805 and passed to his widow. Had Hancock been working at someone else's facility, such as Soho, it is unlikely that he would be permitted to personally retain die trials. While punch-linkage study has not yet been done on the Conder token series, if it is found that Hancock used the same set of punches on dies that were intended for two or more different coiners, then we could be fairly certain that the punches were his own and the dies made in his own workshop. Indeed, there is an extremely rare token, D&H Warwickshire 14 bis, which Hancock produced for himself and actually shows an interior view of his workshop, which displays his notable skills as an artist; indeed, he had been cutting dies since he was just seven years old, something his proud father, who was also an engraver, commemorated on several tokens now collected as part of the larger Conder token series.

different edges and applied them as needed on his own premises. This last possibility makes some sense, for in the Conder Token series there are some varieties that are known with many different edge legends, in some cases with more than a dozen. For some tokens it was clear that these special edge designs were done for collectors as ready-made rarities to sell at a premium. Indeed, one variety was paired with over 100 different edges; this was produced by a collector who kept a complete set for himself, most of which were unique edges (though he did have duplicates of some edge varieties struck to trade with other collectors).[33]

But there are other series of tokens that were never popularly collected at the time, and the different edge legends found on them appear to not have been done on purpose—most likely the token maker just struck whatever planchets he had ordered, and did not verify the edge on every single one. Planchets would have been ordered by weight, not number. The token maker would specify the diameter and how many planchets per pound of copper he wanted, and that would yield a certain weight range, with some a bit heavier, some a bit lighter, but adding up to correct number of pieces per pound. Either the planchet maker or the people that applied the edge lettering would fill an order and the coiner would get their blank planchets—which would be weighed before delivery. If there was an order for 500 pounds and the barrels weighed in at 498 pounds then it was far easier to grab a few handfuls of prepared planchets from other orders that were being produced and mix them in well with the prepared order instead of changing out the machinery and stamping out a few more at both the proscribed weight and with the correct edges. Again, the token maker was more interested in getting the number and weight that he ordered, and if a few had slightly different edges it would make little difference to him.

An examination of William Lutwyche's production methods shows that there was no need to control all aspects of the coinage process since dies and planchets could be done elsewhere, albeit for a price. What he did need to do was to get orders for tokens, arrange for dies to be cut, order the planchets required and then strike the finished tokens. From his undated advertising tokens issued in the early-to-mid-1790s we see he probably had at least two different types of presses; a large one for penny sized or higher relief tokens and a small press for the thinner halfpenny-sized tokens. Because he was advertising his own business, it seems likely that the depictions of coinage presses on his tokens were the actual presses used and their depiction was to show that he had the equipment needed for any size order. The screw presses depicted on the coins may have been the presses Lutwyche bought from Mainwaring's estate or they may have been purchased from some other manufacturer who had gone out of business or modernized to steam powered equipment and did not need these hand-operated machines any longer.[34]

33 This group comprises a whopping 113 different edge varieties for the Birchall token, D&H Yorkshire 28, and amazingly a few unlisted edges have since been found. This list includes edges used on a variety of other tokens struck by known issuers as well as more generic edges. Given the incredibly large number of edges found here it appears that Birchall was able to obtain blank planchets of every edge type being manufactured at the time and had them purposely struck with his dies as delicacies. This group is listed in D&H as an appendix, not with the regular listings of the Yorkshire tokens. While a few of the duplicate tokens (and one of the unlisted edges) have very rarely appeared for sale, the entire set is said to remain intact and privately owned, although it has not been seen by collectors in at least a century.

34 Matthew Boulton purchased the coining presses of Thomas Williams who had struck some of the Anglesey and Wilkinson tokens—but he purchased these presses more to get rid of a potential competitor than for their utility. Indeed, he stated that they were not worth "more than so much old iron." If other manufacturers had felt the same, Lutwyche could have picked up used presses for a very low price. The Boulton quote is from David W. Dykes, *Coinage and Currency in Eighteenth-Century Britain: The Provincial Coinage*, (London, Spink, 2011), p. 113.

Figure 1. The top coin is a halfpenny token of William Lutwyche (D&H Warwickshire 219b) showing a flywheel coining press along with what appears to be either dies or matrix punches in the foreground. While it is impossible to gauge the size of the press accurately, it is likely that the flywheel press illustrated on this token was smaller than the screw press illustrated on his farthing token below (D&H Warwickshire 482). Both types would have been able to strike halfpenny sized tokens, the longer lever arm of the screw press on the farthing token would have exerted more striking force and thus been useful to bring up high relief pieces or tokens of larger diameter, such as penny-sized tokens which Lutwyche also struck. The Soho Manufactory located a few miles away probably gave the impetus for Lutwyche to call his own much smaller concern the "Lutwyche Manufactory." Both specimens from the author's collection.

It is a safe bet that one of the larger token maker and counterfeiters was able to profitably do business in this manner for at least half a decade. Others then followed the same business model—the cottage industry model—with slight modifications due to the Industrial Revolution. At least that would be the case in Birmingham and areas that had a large enough manufacturing base so that blank planchets could be easily acquired in quantity. The planchets are the key element for any sort of coining operation—you either have the ability to make them in-house, as was the case at the Royal Mint and the Soho Mint, or you had to acquire them elsewhere. If you had to purchase the planchets from a supplier, they needed to be transported—and copper is heavy. Transporting hundreds or thousands of pounds of metal would be expensive regardless of how it was moved, and that would either eat up profit or result in a higher quote to a customer placing an order—and if the finished product had to be transported as well, costs could mount. It is little wonder that many of these token makers clustered around Birmingham, close to the supplies needed—or, to a much lesser extent, in London where it was easy to transport material via the Thames River.

Planchets were the most important part of the coining operation for token manufacturers since engraved dies and coining presses could be transported, assembled, and operated anywhere. Many token dies were ordered from professional engravers who had their own tools and access

to quality steel for dies. The more crude counterfeits show such a delightful lack of skill that those dies could have been cut by almost anyone who learned the basics. There are some well-made counterfeits that show a great deal of skill in their engraving, and at least one known family that looks good enough to have actually been created by a first-class engraver (or even perhaps by an engraver from the Royal Mint who moonlighted and engraved at least punches or matrices for the bust of King George III and the seated Britannia figure).[35]

This model works fine for areas like Birmingham and parts of London, but this small hoard of counterfeits was found in Edinburgh, Scotland—some 450 miles away by land. Land travel would have still been much quicker although about half that distance by sea. It would clearly not be cost efficient to ship prepared planchets from Birmingham to Edinburgh to be coined there, and it makes little sense to do so when there were ample presses available in Birmingham.

Or would it? Shipping large quantities of counterfeits throughout England would be expensive and risk attracting unwanted attention, but there was much less risk of attracting attention from officials than might be thought since machinery and tools were being shipped everywhere in the kingdom at this time. Edinburgh had little industry in the eighteenth century but it was a center for shipbuilding in the port area of Leith and had both printing and distilling industries—either of which would provide good cover for shipping a press. Edinburgh was also a city of bankers who would almost always be in need of small coin. Edinburgh's industrial base was not conducive to large-scale counterfeiting, at least not to the extent Birmingham's was. Regardless, if, as sketched out earlier, there were tradesmen, middlemen or merchants who could procure the necessary supplies (planchets and dies) then all that was needed was a coining press to manufacture counterfeits in Edinburgh.

Today we think of coinage presses as large, unwieldy, and complicated machines, a view reinforced by the few illustrations that survive of screw presses used in the eighteenth century, including one that took five people to operate, two to swing each of the heavy weighted arms and one to remove struck coins and insert new planchets, trying hard to not lose a finger in the process (Fig. 2). Those types of presses certainly did exist—and were used for things that were struck in high relief or in larger diameters, like large medals or silver-dollar sized coins. But, in reality, a coining press did not need to be large—especially if what was being struck were thin copper planchets, using dies that were not deeply cut so that little striking force was required. Indeed, in the collection of the British Museum, and currently on display in their refurbished coin room, is a counterfeiter's rocker press from seventeenth century Spain (Fig. 3). Although the small press was used a century before the coins in the hoard were struck, the technology would not have changed all that much since small-scale counterfeiters would not be able to afford a Watt steam engine.[36] The press in Figure 3 is barely over one foot tall and eight inches wide—a table top coining press that could be easily operated by a single person with just arm strength—pretty much perfect for pounding out a few dozen to a few hundred pieces at a time, enough for the day's needs or to sell in small batches at a great discount from face value. To underscore the size of a press needed, it should be noted that the British Royal Mint struck coins by the hammer method until 1662, only adopting the screw press—begrudgingly—when

35 The "Coin X Family" dated mostly 1770 (with at least one variety dated 1771) is one of the best-produced counterfeit families, and stylistically very similar to the regal coinage of the year. This family will hopefully be published soon, but the excellent design detail on the dies that make up the family (at least four each obverse and reverse) strongly suggest engraving by someone who was very familiar with the regal products.

36 Figure Three depicts a rocker press, while the counterfeit British issues were most likely produced on either a screw or hammer-type press as they show no signs of the distortions found on pieces made with a rocker press. However, no contemporary screw presses have been located for illustration—such machinery would have been repurposed after it was no longer needed for coining or melted down for valuable scrap metal once it broke.

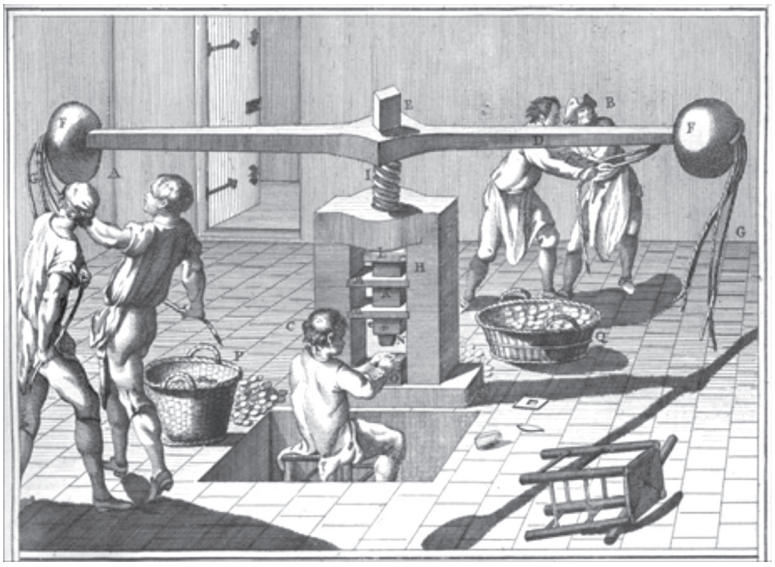

Figure 2. This often-reproduced image of a late seventeenth/early eighteenth century screw press has helped distort our thinking today about the size of coinage presses at the time. This behemoth required five muscular boys to operate,* and even if the worker were just four feet tall, the press would be about five feet high and the flyarms about double that length. This type of press was in use—but it would have been at a venue like the Paris Mint and used to strike some of the extremely high relief medals, special proof coins or patterns of the period—not for lower relief copper coins which would not have needed anywhere near this kind of striking pressure to adequately bring up the coins' impression. This image was originally the top half of plate XV in Denis Diderot's *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, published between 1759 and 1772, this plate appearing in 1771.

Figure 3. This counterfeit rocker press is from Spain and probably dates to the seventeenth century, and is just 12 ½ inches high and a little over 8 inches wide. A screw press used for thin planchet pieces of halfpence and smaller size would not have been appreciably larger. ©Trustees of the British Museum (Museum number C.4990).

* Younger boys were preferable to grown men for this particular work—they were quicker, more agile, and had smaller bodies—especially smaller hands that could insert and extract planchets from between the dies. This fact held true well into the era of steam presses—Matthew Boulton himself was "willing to supply jobs to orphans and plain country lads but also expected twelve-year-old boys to work ten hours at night on his coining press." Frank N. Magill, ed., *The seventeenth and 18th Centuries: Dictionary of World Biography*, Vol. IV, (Routledge, 1999), p. 184.

Figure 4. The top coin illustrates one of the two previously known varieties of 1748-dated George III mule which share the same obverse paired with very similar reverses. The bottom coin is a new discovery, pairing a different obverse and reverse die. Both specimens in the author's collection.

the coinage of France became so much better in quality and artistic style. Up to that point just an arm and hammer was sufficient to strike decent quality coins on thin planchets, and a small table-top sized coining press could certainly exert at least as much force as a person swinging a hammer.

In the age of internet research, the records of the Old Bailey have recently been made available online, allowing for a modern look into the criminal past. Both Marc Mayhugh and Bob Bowser have made ample use of these records, and over 60 different cases of counterfeiting of both halfpence and farthings between 1774 and 1799 have been located. The Old Bailey, which was situated in the heart of London, heard cases from greater London as well as major cases from elsewhere in the kingdom. That, of course, skews the sample, as only local counterfeiters were prosecuted in this venue.[37] Since it was much easier to transport supplies in and out of London, the number of counterfeiters there was probably greater than anywhere outside of Birmingham. However, the cases are sufficient to make a few comparisons. In his 2007 article, Bob Bowser states "[b]y and large, the majority of the 60 or so cases processed by the Old Bailey for stamping halfpence or farthings were from presses set up in individual homes and not more sophisticated workplaces."[38] The case described in his article was one of the rare instances where we can actually make a good guess at which coins were being counterfeited in this venue since the court records clearly state that the minters used an obverse of George III, while the reverse bore a 1748 date—what we would today call a mule. At the time Bowser wrote his article there were only two varieties known that had this trait, a single obverse die paired with two similar but different reverses; since then a third variety mule of this date has been found, with both obverse and reverse different from the first two varieties; they could possibly all have been struck at the home of the accused, but it is at least a safe bet that some of them were (Fig. 4).

The three counterfeiters responsible for these coins (two men and one woman) were arrested on August 27, 1796. All were found guilty and fined just one shilling and a year in Newgate Prison—certainly not the kind of sentence that would deter others from trying their hand at the counterfeiting game. In the house the police found a coining press in the cellar, hidden behind

37 Records from other courts are not yet online and, in some cases, no longer extant.

38 Robert L. Bowser, "1748-dated Counterfeit British Halfpenny Source Identified," *CN*L, Vol. 47, No. 3, Dec., 2007, p. 3212. A study of the die states and striking sequence of the coins described by Bowser in this article are found in the Winter, 2008 issue of *C4N*, Vol. 16, No. 4, p. 24.

a curtain, with the dies still warm from striking. Unfortunately, no information was provided in the court records regarding the size of the press itself, though one would assume that since it was hidden in a residential basement behind a curtain it could not have been large. Searching further, the officers found a number of struck coins as well as a large number of blank planchets ready to strike. Also seized was a trouncing bag with sawdust with which to age the newly struck coins. Not mentioned at all—presumably because it was not there—was any sort of equipment to roll copper or cut planchets, or any tools or implements to make new dies. We can take this as more circumstantial evidence that planchets and dies were procured elsewhere by counterfeiters.

A similar find by Marc Mayhugh also involves a case from 1796 and the greater London area.[39] In this case, far more equipment was recovered by the police who confiscated "a fly, a stamping press, and every other implement for coining" while in the garret was found "a cutting press, fixed, (and) some farthing and halfpence blanks." Also found were at least five different dies, both halfpence and farthing sizes. The house had three different cellars, and the amount of equipment in them and the attic is greater than found in similar raids of the time. While these people certainly struck counterfeits themselves, it is quite possible that the equipment they had was also employed to make blank planchets for other counterfeiters in the area, or on the order of a wholesaler or merchant who would take the blank planchets elsewhere to sell. Perhaps because of the sheer amount of counterfeiting apparatus found in this house, the defendants were treated a bit more harshly than in the above instance—the leader, John Stribblehill, was fined £20 but sentenced to the same one year in Newgate Prison and the servant, Mary Haynes, received the same prison time but no fine. The court likely showed mercy by not sentencing the accused's wife, Prudence Stribblehill, even though her hands and dress were covered in oil from the coining press, because she was the mother of several small children and imprisoning her would leave them without a parent to tend to their needs. The £20 that John Stribblehill was fined would today be the equivalent of about £1,200 (or about $1,600), which does not seem like much, but that amount of money had much greater purchasing power then than it does today considering the average yearly income for a laborer or farmer in England in 1800 was £15-30.[40]

What makes this case interesting is that again we are given a very clear description of what the counterfeited coins looked like. In his testimony before the court one of the officers swore he took a coin from the press and that "the halfpence [sic] bare the date 1762." This is fantastic information, because there were no regal British or Irish halfpence produced in that year. When Mayhugh wrote his article there were no counterfeits known with this date either—though there were a couple of 1752-dated pieces where the 5 was cut either very sloppily or purposely vague and could be mistaken for a 6. However, shortly after Mayhugh's article was published, two different varieties were found with an obvious 1762 date (Fig. 5). Both varieties are part of the large, crude Simian Family—the largest family of counterfeits known,[41] cut from hand-

39 Marc Mayhugh, "A Counterfeit 1762 Halfpenny," *C4N*, Vol. 16, No. 3, Summer 2008, p. 18.

40 For a very thorough review of wage information from the 1200s through the more modern era of England, see https://www.measuringworth.com/datasets/ukearncpi/earnstudynew.pdf

41 The Simian family contains both halfpence and farthings of both British and Irish design. No Simian Irish farthings have yet been found, but they could exist. Most are of George II and George III issues, but there is at least one halfpenny known that imitates a William III halfpenny. The Simian dies cross over into the evasion copper series. There are many mules within the series—both George II/George III and George III/George II, as well as mules to other families where one side was a Simian and the other was not. Even though there were literally hundreds of different dies cut, bearing dates anywhere from 1733 to 1797 (the William III piece has no date in the die itself) they all appear to be made by the same person—but there are very few instances of die sharing within this large series. This, again, further suggests that the dies were made somewhere, perhaps Birmingham, and then parceled out to counterfeiters across the kingdom. These counterfeiters would order a set or two of dies and use those until one broke, and then

engraved dies. The two varieties are distinct, one with a large date on the reverse, the other with a small date, and with quite different bust styles on their obverses. One of these was most likely from the dies that were in the press when the Stribblehill house was raided. Given that there were at least five dies, and bags of struck coins, it is indeed possible that both varieties were made in that location as well. Neither of these 1762 reverse dies are known in any other pairing, though the obverses used both come paired with other reverses. The obverse used on the large date variety comes with a non-Simian reverse dated 1733 (a George II date mule in a generic style), while the obverse on the small date variety comes with a very unusual Simian style 1775-dated reverse which directly die links to four other varieties, including one with a non-Regal 1777 date that crosses over into the evasion series as well. Further proof that the coiners were striking all sorts of different things at the same time—mules, family mules, evasions, hybrids and occasionally they managed to get things right too.

Figure 5. Two different varieties of 1762 counterfeit halfpence with George II obverses and a George III date, though one when no regal coinages were struck. Both sets of dies are from the Simian family, the top variety with a large date, the bottom one with a small date. Both specimens from the author's collection.

Francis Pierrepont Barnard, in his 1926 article "Forgery of English Copper Money in the Eighteenth Century"[42] gives half a dozen notices from Gentlemen's Magazine from 1751 through the 1770s concerning arrests made for counterfeiting. One charming note from March 31, 1774 states that on the night before being arrested the counterfeiters had "sent a child for some beer with new halfpence to pay for it; and the landlord observing to the child that they were warm, she innocently replied that her daddy had just made them."[43]

order another. Had this huge mass of Simian dies all been made and used at the same place one would expect intricate die pairings—as was the case with the evasion coppers that were being produced at the same time.

42 *The Numismatic Chronicle and Journal of the Royal Numismatic Society,* Vol. 6, p. 341.

43 Ibid., p. 349, cited from *Gentlemen's Magazine* issue noted, p. 352. Barnard's utility is marred by his conflation of counterfeit and evasion pieces, as well as an unfortunate anti-Semitism, carried over from the work of Patrick Colquhoun, which one suspects was all too common at this time. Colquhoun also makes similar remarks against the Irish and other ethnic and religious groups throughout his writings on police procedures.

It is suspected that as the records of other courts are transcribed and brought online similar trends of small counterfeiting operations run out of residential structures will be discovered. While larger counterfeiting operations were certainly run by manufacturers such as Lutwyche, they were either concealed from scrutiny by producing other wares (Lutwyche still continued to strike tokens for clients and made rarities for sale to collectors), or arrangements were made with local official that caused a blind eye to be turned to any suspicious activity. Smaller operators would be more susceptible to discovery—especially if they were receiving large shipments of metal or paying their bills with copious amounts of copper coins that all looked alike. Prison sentences for counterfeiting copper coins were not unduly harsh, and, like most prisons of the time, dangerous felons were segregated from those who committed lesser crimes—and if an inmate was wealthy, better food and accommodations could be arranged and paid for, which would make the year behind bars pass quickly and comfortably. Indeed, a contemporary writer notes that "as the offence of selling is only a misdemeanor it is no unusual thing for the wife and family of a culprit, or convicted seller of base money to carry on the business, and to support him luxuriously in Newgate, until the expiration of the year and day's imprisonment, which is generally the punishment inflicted for this species of offence."[44]

So while we will probably never be able to definitively state that this group of 36 counterfeits was made in Edinburgh (short of someone finding something in the contemporary court records that stated who made them and where), it is at least possible, and perhaps even probable, they were produced locally, although the planchets and dies would have been made elsewhere. Let us turn now to an examination of the coins themselves.

The smaller group consists of just four examples, each a George II issue dated 1751. These four are part of a larger family of counterfeits known as the Flat Struck Family—for rather obvious reasons since there is little detail on the high points of either side, and the areas of King George's face and the drapery detail on the reverse figure look flat. This, of course, could be the result of three different factors—or some combination of the three. 1) The dies could have been purposely engraved shallow and without any fine details, which would make a piece appear well-worn even when freshly minted; 2) The dies could have been engraved far too deep so that even though the finer details were there, the thin planchets did not provide enough metal to flow into the deeper areas when struck; 3) The dies were engraved at a normal depth but there was not enough striking pressure used to force the metal into the deeper parts of the dies. The Flat Struck Family is mostly dated during the reign of George II, with the two most common dates being 1733 and 1751. There is also at least one mule with a 1771-dated reverse and a George II obverse. This family is currently being studied in more depth and die variety listings are not yet available. As can be seen in the illustrations, all four examples from this hoard look, at first glance, to be extensively worn—yet each is basically as struck. It is thought that many of this type of counterfeit, none of which are known with full mint red, had been artificially aged after striking—putting them in burned sawdust would get rid of the flashy mint red that would not look right on a coin that was supposed to be both aged and worn, and shaking them around in a cloth sack with a couple stones thrown in would impart some light nicks and scratches and others marks making it appear as if the coins were in circulation.[45]

The four examples of this date are illustrated in Figure 6, with the diameter and weight below each photograph. Coin #3 in the hoard is a fairly decent off-center strike—there are a number of error strikes known for this family, including similar off-center strikes, massive die breaks, brockages and double strikes. The most unusual seen thus far is a triple-struck piece with a partial

44 Patrick Colquhoun, *A Treatise on the Police of the Metropolis*, (H. Fry, London, 1796), p. 182.

45 In his article on the counterfeit 1762 halfpence in the Summer, 2008 issue of *The C4 Newsletter,* Mayhugh quotes the officers who made the arrest as finding "some brimstone, two trouncing sacks, some sawdust, and bell metal and liquid mixed with the brimstone to make the coins black." p.18. Brimstone is, of course, sulphur—which is still used today by copper collectors to tone down harshly cleaned coins.

brockage in the author's collection (Fig. 7). The number of errors suggests that they were made by people not quite experienced with the coining process.[46] The lightest of the four hoard pieces weighs 68.2 grains and the heaviest only 74.8 grains. The regal halfpence coinage was authorized at 46 halfpence per pound of copper, or an average of 152.2 grains a coin. Therefore, the heaviest of the four coins weighs less than half of the authorized weight of a regal halfpenny. If these pieces were struck in the 1790s and backdated, they would have been struck at a time when prices and supplies of copper fluctuated wildly. In 1787 copper was at a low of just £48 per ton, by 1790 it had risen to £74 per ton and by the following year it was £86 per ton—these prices were for pure copper from the Anglesey and Cornwall mines, while scrap copper could be obtained for much less.[47]

For the purposes of trying to estimate the profitability of this type of counterfeiting, higher expenses of £100 per ton for the actual cost of the copper are assumed, or 5 pence per pound of metal. A weight of 75 grains per coin on average is estimated, which would come out to some 92 counterfeit halfpence struck per pound of copper (with a little left over as waste), exactly double that of the regal issues. This equates to 46

Edinburgh Hoard Coin 1, 1751
68.2 grains, 27.6mm

Edinburgh Hoard Coin 2, 1751
69.4 grains, 28.07 mm

Edinburgh Hoard Coin 3, 1751
74.4 grains, 27.86 mm
Struck off center

Edinburgh Hoard Coin 4, 1751
74.8 grains, 27.56 mm

Figure 6. The four examples of 1751-dated counterfeit halfpence found in the Edinburgh Hoard. Diameters (at the largest horizontal axis) and weights are given below each coin. All photos by the author.

46 In his article on the 1748-dated counterfeit halfpence in the December 2007 issue of *The Colonial Newsletter*, Bowser notes that found along with a number of struck counterfeits in a bag, there was also found "in the wainscot a number of misstruck halfpence not really fit for circulation." Apparently these striking errors were relatively common, and while some did make it into circulation others were presumably melted down and then recoined.

47 W.O. Alexander, "A Brief Review of the Development of the Copper, Zinc and Brass Industries in Great Britain from A.D. 1500 to 1900, *Murex Review*, Vol. 1, No. 15, 1955, p. 389-423. See also, http://www.broseley.org.uk/Archive/wilkinson%20interests%20copper.htm for a look at copper prices and how they affected John Wilkinson, the great "Iron Master" of England.

pence coined from each pound of copper, or a profit of 41 pence per pound—a profit level of nine times the cost of copper.[48] But, of course, this is not actually all profit. The copper would need to be smelted, rolled and the sheets punched into planchets.[49] Dies had to be made, presses acquired and there was time and labor to strike the coins, which certainly increased the cost of making these pieces too far above just the value of the copper. With all the other factors added in for a larger counterfeiter the cost of coining copper into pieces of this weight range was probably 15 pence per pound, which would still equate to a 30 pence per pound profit. But that profit only exists if these were all immediately sold or circulated at full face value, and that was not often the case. It is more likely that the larger counterfeiters would sell coins in bulk at half their face value to a wholesaler, who would then sell them at 2/3 face value to merchants who needed change, companies that used them to pay employees, or people who would "smash" them into circulation.[50] So now the equations are considerably changed. That 92 halfpence struck per pound of copper would be sold for 23 pence to the wholesaler and 31 pence to the final buyer. The wholesaler made roughly eight pence per pound, while the merchant or individual was able to make 15 pence per pound if they were able to successfully get all the pieces into circulation at the full halfpenny value, and we assume minimal transportation costs. The counterfeiter himself would make less than anyone else in this scenario, earning just seven pence per pound of copper he coined—but, of course, his profit margin would go up if he was able to reduce the weights below this level or buy copper at lower prices estimated here. If he used scrap copper that was available for less than that of refined ore, the counterfeiters' profits would be at least on par with that of the final buyer, if not higher.

Figure 7. A member of the Flat Struck family (not from the Edinburgh Hoard) showing the counterfeiter's lack of skill in the minting process—this example is triple struck, with a partial tab brockage. From the author's collection.

In a 1796 publication that went through several editions, Patrick Colquhoun commented that "[t]he plain halfpence are generally made at Birmingham; and from their thickness, afford a

48 The weight of counterfeit farthings is even lighter proportionately than halfpence and would have had a higher overall profit margin (some weigh less than ¼ of the authorized weight, which would be a 200% profit). There are, however, far fewer counterfeit farthings both in terms of die varieties and extant numbers since apparently these were not as welcome in commerce.

49 In 1800 Colquhoun had noted that sheet copper was priced at 11 ½ pence per pound but that it had been cheaper a few years earlier. This price is higher because the copper has been smelted and rolled out—and would be ready to cut blank planchets from. A smaller operator without much equipment would certainly have found it less expensive to buy this sheet copper at a higher unit price, while someone who had the necessary equipment would have probably found it more cost-effective to buy copper and work it themselves.

50 The same letter writer in the Nov. 25, 1752 issue of *Gentleman's Magazine* quoted earlier states that "the way of uttering them is to send large quantities to different parts of the kingdom, where tradesmen who employ a number of low hands, and can stoop to low practices for gain, oblige their workmen to take them as wages." He further notes that these counterfeits needed to "pass through several hands, before they reach their intended value" which suggest that a middleman or wholesaler took his cut, as did the merchant who bought them—and it was up to the laborer getting paid to try and get the pieces into circulation at their supposed face value.

wonderful deception. They are sold, however, by the coiners to the large dealers at about a farthing each, or 100 percent profit in the tale or aggregate number. These dealers are not the *utterers*; but sell them again by retail in *pieces,* or *five-shilling papers*, at the rate of from 28s. to 31s. for a guinea; not only to the Smashers, but also to persons in different trades, as well in the Metropolis as in the Country Towns, who pass them in the course of their business at the full import value."[51] He goes on to state that there were always at least 40 or 50 counterfeit mints, making silver and copper coinage "in London and in different country towns."[52] While Colquhoun does not go into detail regarding how counterfeiting rings were organized, in one section he does comment that "a single dealer has been known to procure from the coiners who worked for him, from £300 to £500 for country orders, in the course of the week." Therefore, we have some contemporary evidence that there was a separation between the person who ordered the counterfeits and those who made them.[53]

It is much harder to estimate profit margins for a small-scale counterfeiter because the price of copper, planchets, and dies would be higher since there would be a middleman or wholesaler supplying those items (at a profit) to the individual counterfeiters—and that middleman would need to travel, plus incur delivery expenses, especially if he was traveling from his home base in Birmingham to look for potential clients in a location as far away as Edinburgh. But if we figure that the cost of production plus all of the expenses added up to a very high estimate of 75% of the face value, that would still leave nearly a shilling (12 pence) per pound of struck copper as potential profit—and there were very few legitimate businesses in England that could make a 25% net profit in exchange for a few hours work.[54] That profit margin, accompanied with the ability to "work from home" in an unskilled vocation would certainly have tempted more than a few people to undertake counterfeiting, even if it was just for a short period of time, or for rather small quantities of counterfeits struck at a time. It is certainly easy enough to imagine someone "taking a gamble" and buying or renting a press and buying a pound of planchets and a couple sets of dies and perhaps circulating half of the counterfeits struck before they got scared or suspicion fell on them, hiding the rest behind a wall.

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51 Patrick Colquhoun, *A Treatise on the Police of the Metropolis* (H. Fry, London, 6th ed., 1800), p. 181. Chapter 7 details the crime of counterfeiting in detail. Colquhoun was the founder of the first modern police force - the London Marine Police Force, which was the template used by Robert Peel to from the new Scotland Yard three decades later. At the time this work was originally published, Colquhoun was magistrate of four different counties, including London, and he was among the first to use police as a preventive force against crime by having them constantly on patrol and visible to the population. This type of policing was only done along the Thames, so it did not significantly deterred counterfeiters.

52 Ibid., p. 182.

53 Ibid., p. 187. This sentence is unfortunately somewhat vague. We do not know if "country" referred to where the coiners where or where the order came from, and we do not know how many "coiners worked for him" or where those coiners were located. Nor is it clear whether the amount procured was the face value of the halfpence or how much the dealer was selling them for—£300 at face value would be 72,000 halfpence but would be closer to 150,000 if the £300 was the amount being sold to a customer. This would be 10,000-20,000 struck per day which was far too large for a single counterfeiter working on a single press. If this quantity were indeed struck in such a short time it strongly suggest multiple presses, run by many people in different locations.

54 Mossman, *From Crime to Punishment*, p. 126, estimates a 58% profit just on reduced weight and perhaps as high as an 84% profit based on lower manufacturing costs for counterfeiters than the Royal Mint. This profit is for coins distributed directly from the counterfeiter, but does not take into account the transport costs if there were middlemen, as well as the splitting of profits between several groups if the counterfeits were sold in bulk to wholesalers and then to individuals to get them into circulation. The profit margins would depend on a large number of variables—including the price of copper, how planchets were obtained, the cost of transport, how dies and presses were obtained and how many hands the finished product passed through—and no set profit percentage could ever apply to the series as a whole. Suffice it to say that a sizeable profit could be made, and that is evident by the sheer quantity of counterfeits known, as well as the length of time that such counterfeiting operations lasted.

A word should also be said about the relative risk each group of people were taking in this kind of enterprise. The way the counterfeiting laws were written, those who actually struck and circulated the forged coins were the ones taking the greatest risk since they were the culprits who were arrested and tried. If merchants were accused of passing counterfeit coins, they could always claim the coins were received in the course of business, unless, of course, the merchant was caught in the act of receiving kegs of counterfeit coppers—something that has not been discovered in the criminal records thus far. There was no crime at all in making blank copper planchets—these were perfectly legal to make for genuine tokens and medals—and that meant that a middleman or wholesaler would have no legal problem in transporting blank planchets, although they might be wary of doing so openly in areas where token makers were not known to work. Dies are a bit trickier, as they were never specifically addressed in the laws against counterfeiting, although they are often mentioned in the records of criminal cases. Unused dies might show intent, but a good attorney would probably be able to successfully defend the case by asserting the dies were for medals honoring King and Country, or to be struck as one-sided harness or furniture ornaments, or were not die pairs that went together, and that one side was going to be a token, while the other side looked like a coin—all of which were perfectly legal. If the middleman only supplied copper planchets and dies to a network of cottage industry counterfeiters, his personal exposure was minimal. If however he supplied the material and then picked up the struck counterfeits to deliver elsewhere, he ran much greater risks and would expect his compensation to be increased accordingly. A possible check on this compensation is that, as in all such trades at the time, it is likely that no one person had a monopoly on an area since there might have been a few different middlemen or wholesalers operating in the same town or county, all competing for the same workers. However, this all worked out and unless a court record is found with these kind of details, we will probably never know for sure. It was clearly an enterprise that was profitable for all concerned as it lasted a good decade before the Soho Mint destroyed the business model.[55]

The next group of coins located in the hoard is much larger by number, a whopping 32 examples, from a single die pair (Fig. 8). This may seem like a large number, but the same 1752 letter writer quoted above stated that a “common stamp, with two pair of hands, is capable of turning out 50 gross in a day.” A “common stamp” means a simple, small coinage press of the type described earlier and the two pairs of hands were either taking turns striking or one was feeding and removing planchets and the other was doing the actual striking. A gross is a dozen-dozen, or 144 pieces, so 50 gross is 7,200 coins capable of being struck per day; if we assume the 75 grain weight level as an average for this group of counterfeits that is about 96 pounds of copper that could be coined per day, or exactly 100 pounds at a 72 grain average. This amount would probably not cause much notice if it was being made by a token and medal maker or another Birmingham manufacture that used lots of metal, but 100 pounds of blank planchets delivered every day to a residence would attract attention. However, a pound or two of copper could easily be transported without difficulty, and we suspect that many of these cottage-industry counterfeiters struck smaller numbers of coins per day, perhaps 100 or less, as needed, and not enough to be noticeable if put into circulation. Since some of the criminal cases heard at the Old Bailey involved larger numbers of coins than this, we would have no way of knowing over what period of time they were struck before being dispersed or confiscated by the law. The number of counterfeiters arrested and actually incarcerated was apparently only a small

55 The Soho Mint coinage did not completely end counterfeiting in England. Boulton coined only penny and twopence coins under his contract, though he tried hard to get authorization to coin both halfpence and farthings. Even with the amount of machinery he had at his disposal it would not have been possible for him to coin enough of these denominations in a short time to effectively withdraw all the previous coinage. So, as governments are prone to do, they did nothing and instead let the halfpence remain in circulation until the lighter issues were forced out by merchant refusal, which, of course, hurt the poorer classes the most since they ended up stuck with worthless coin. The Royal Mint did help a little by striking these denominations in 1799 and again in 1806-7, at much better weight levels.

Edinburgh Hoard Coin 1, 1775 Simian/Young Head Mule
72.4 grains, 27.05 mm

Edinburgh Hoard Coin 2, 1775 Simian/Young Head Mule
72.0 grains, 27.28 mm

Edinburgh Hoard Coin 3, 1775 Simian/Young Head Mule
72.6 grains, 27.10 mm

Edinburgh Hoard Coin 4, 1775 Simian/Young Head Mule
73.2 grains, 27.360 mm

Edinburgh Hoard Coin 5, 1775 Simian/Young Head Mule
74.2 grains, 27.12 mm

Edinburgh Hoard Coin 6, 1775 Simian/Young Head Mule
78.0 grains, 26.83 mm

Edinburgh Hoard Coin 7, 1775 Simian/Young Head Mule
73.4 grains, 26.87 mm

Edinburgh Hoard Coin 8, 1775 Simian/Young Head Mule
69.2 grains, 26.91 mm

Figure 8. The 32 examples of 1775-dated counterfeit Simian-Young Head mule halfpence found in the Edinburgh Hoard. Diameters (at the largest horizontal axis) and weights are given below each coin. All photos by the author.

Edinburgh Hoard Coin 9, 1775 Simian/Young Head Mule
70.6 grains, 27.09 mm

Edinburgh Hoard Coin 10, 1775 Simian/Young Head Mule
73.2 grains, 27.01 mm

Edinburgh Hoard Coin 11, 1775 Simian/Young Head Mule
72.6 grains, 27.22 mm
Double Struck

Edinburgh Hoard Coin 12, 1775 Simian/Young Head Mule
71.4 grains, 27.07 mm

Edinburgh Hoard Coin 13, 1775 Simian/Young Head Mule
71.4 grains, 27.15 mm

Edinburgh Hoard Coin 14, 1775 Simian/Young Head Mule
75.6 grains, 27.03 mm

Edinburgh Hoard Coin 15, 1775 Simian/Young Head Mule
68.4 grains, 27.27 mm

Edinburgh Hoard Coin 16, 1775 Simian/Young Head Mule
69.6 grains, 26.98 mm

Figure 8 continued.

Edinburgh Hoard Coin 17, 1775 Simian/Young Head Mule
69.4 grains, 26.88 mm

Edinburgh Hoard Coin 18, 1775 Simian/Young Head Mule
69.2 grains, 27.17 mm

Edinburgh Hoard Coin 19, 1775 Simian/Young Head Mule
69.2 grains, 26.84 mm

Edinburgh Hoard Coin 20, 1775 Simian/Young Head Mule
72.4 grains, 27.41 mm

Edinburgh Hoard Coin 21, 1775 Simian/Young Head Mule
71.6 grains, 27.16 mm

Edinburgh Hoard Coin 22, 1775 Simian/Young Head Mule
70.8 grains, 27.28 mm

Edinburgh Hoard Coin 23, 1775 Simian/Young Head Mule
72.8 grains, 26.93 mm

Edinburgh Hoard Coin 24, 1775 Simian/Young Head Mule
72.2 grains, 27.15 mm

Figure 8 continued.

Edinburgh Hoard Coin 25, 1775 Simian/Young Head Mule
76.8 grains, 27.32 mm

Edinburgh Hoard Coin 26, 1775 Simian/Young Head Mule
73.6 grains, 27.41 mm

Edinburgh Hoard Coin 27, 1775 Simian/Young Head Mule
70.0 grains, 27.31 mm

Edinburgh Hoard Coin 28, 1775 Simian/Young Head Mule
75.4 grains, 26.95 mm

Edinburgh Hoard Coin 29, 1775 Simian/Young Head Mule
69.2 grains, 27.47 mm

Edinburgh Hoard Coin 30, 1775 Simian/Young Head Mule
71.8 grains, 27.26 mm

Edinburgh Hoard Coin 31, 1775 Simian/Young Head Mule
73.8 grains, 27.15 mm

Edinburgh Hoard Coin 32, 1775 Simian/Young Head Mule
72.0 grains, 27.17 mm

Figure 8 continued.

fraction of the total number of forgers engaged in the counterfeiting fraternity since even with those apprehended felons biding their time in prison, there was never even the slightest a dent in the overall output of fake coins entering the marketplace.

The dies used for these 32 examples are unusual in that they do not belong together in the way the two Flat Struck family dies, described above, do. The obverse is part of the large Simian family; these dies were cut completely by hand and share a very similar look with distinct spidery lettering and all show evidence of having been cut by the same hand. Few of the hundreds of Simian dies are used in multiple pairings, which strongly suggests they were made in one place and parceled out to other coiners across England (and perhaps Scotland too!). This Simian obverse is so far known only with the reverse die used here which is part of the very large Young Head family, dated 1775 (as are the vast majority of this family). A number of Young Head-Simian mules are known,[56] but where this occurs generally one of the dies is broken or badly damaged, as is the case here, where a large internal cud is present below the seated figure's pole arm, which has led this variety to be called the "Poufy Sleeve" reverse, in homage to a Seinfeld episode about a Poufy Shirt.

The fact that most of these cross-family mules involve at least one of the die pair being broken or damaged suggests there was also a trade in used dies—again, a wholesaler or merchant who traveled across a certain area and found a way to profit from used merchandise (and perhaps the same person who peddled planchets to individual counterfeiters). A larger mint, such as the one presumed to have been responsible for the well-made Young Head varieties, must have struck huge quantities given the many examples that still exist today. The parent facility may have pulled heavily broken dies out of production and sold them to a middle-man who then supplied a smaller counterfeiting operation for a lower price than a new die would cost. The new owner of these damaged dies would then strike thinner planchets with less pressure and more care, until the die shattered. While there is no direct proof of this found in the literature, it is likely that someone would have seen a way to profit from something that would have otherwise been thrown away or melted down. There was, of course, a booming trade in every sort of used object at this time, from housewares to tools to clothing and linens.

This large group is remarkably similar in terms of planchet stock. The lightest is 68.4 grains and the heaviest is 78.0 grains, the average weight of the group is 69.89 grains—about 46% of the authorized weight of a regal halfpence. This reduced weight gives almost exactly 100 pieces per pound of copper planchets, and one wonders if this is just a coincidence or if the weight was set at this level in order to make counting easier. The diameters of the struck pieces are even closer, with the smallest measuring 26.83 mm and the largest 27.78 mm, not quite a 1 mm variation which suggests the planchets were cut by accurate machinery, such as the kind a button manufacturer would have. The average diameter is 27.16 mm. Error strikes in this group include a double struck specimen showing two dates (Coin #11 above), as well as two with minor clips and a small off-center strike. It is possible that the copper used to make these planchets came from melting down regal halfpence.[57] This may seem counter-intuitive to melt a

56 These mules are known both Simian on the obverse and Young Head on the reverse and the other way around. Both Simian and Young Head dies mule into other families as well.

57 Mossman, *From Crime to Punishment*, p. 127. One must temper this with the fact that this era had huge amounts of copper being mined in Anglesey, Cornwall and other areas of the British Isles, and that mostly pure copper was available from these mines, though at wildly fluctuating prices. At times when copper was cheap it would not make sense to melt regal coinage—but when copper prices rose it might have been more cost-effective to do that rather than obtain new copper. The melting of regal issues is also mentioned in Barnard, Forgery of English Copper Money in the Eighteenth Century, p. 346. A Sep., 1771 letter in *Gentlemen's Magazine* (p. 186) astutely notes another reason for regal coppers "being destroyed by the makers of counterfeit halfpence, who have but little prospect of putting off theirs while there is plenty of good coin"—that is, if the supply of regal coppers were non-existent then people would

coin to strike a coin, but since these counterfeits weigh less than half of a genuine regal halfpenny one could effectively double their money by doing so. The counterfeits thus struck would have the same overall look of the genuine pieces, not the brassy look of the cast coins made in the early reign of George II.

The "Poufy Sleeve" reverse die is part of the Young Head family and is known in an undamaged state paired with an obverse that is, also part of the Young Head family (center coin, Fig. 9). The Young Head obverse used on this variety should look familiar. It is the same one as on the first 1748 mule illustrated in Figure 4 in an earlier die state, with just a hint of the "Bubblegum" die break at the mouth of King George III. This Young Head obverse die may have been pulled when that damage was noticed, and sold to someone who handled used and damaged dies as theorized earlier. It was then paired with the at least three different reverses, the two 1748 varieties mentioned previously and a die dated 1773; the reverses apparently were swapped out when a die was damaged with different die until the damaged die was repaired, making for a long and rather confusing emission sequence.[58]

Figure 9. From the top: a more evenly struck example of the Simian-Young Head mule, (NOT part of the Edinburgh Hoard above, but with a more even strike than those specimens), which shares the same reverse die with the 1775-dated Young Head variety in the center, which in turn shares the same obverse die with the 1748-dated mule (along with two other reverses not illustrated here, but shown in the Bowser-Trudgen article mentioned above). All specimens from the author's collection.

It is interesting to note that the various pairings involving this Young Head obverse and reverse die start with perfect or nearly perfect dies when used in the middle coin in the illustration below, a rather typical example of the Young Head family. But when the dies were paired outside of the family—the Young Head reverse with the Simian obverse at the top of the illustration, and with the 1748-dated reverse at the bottom—both of the Young Head dies were broken. This adds circumstantial evidence for a trade in used coinage dies, and it is entirely possible that these three varieties, although sharing two dies between them, were actually struck at three different mints!

be forced to use lightweight counterfeits for smaller day-to-day transactions.

58 See, Robert L. Bowser and Gary Trudgen, "Die State Study of 'Bubble Gum' Obverse Die," *C4N*, Vol. 16, No. 4, Winter, 2008, p. 24. The other varieties used with this obverse, as well as the different die states of the reverses which were switched out in the press several times, are illustrated and nicely described.

The eighteenth century counterfeit British and Irish coinages continue to befuddle and charm in equal measures. Only now, two centuries plus after they were made, are collectors making systematic progress with this large, complex series—one that has been ignored for too long, solely because of the difficulty it represents. Indeed, if you counted the dies of every state coinage issue, plus the Fugio coppers, and added in the dies for all the St. Patrick's pieces and all the Woods coinages too, that number would not equal 10% of the known dies for the eighteenth century British and Irish counterfeits.

To move forward may seem a daunting task—and it is. As more of this research is done and published the ties and similarities between American colonial coinage and British counterfeits will become more pronounced. But this is also "the final frontier" for colonial American numismatic research, and offers opportunities for discovery that mainstream colonial numismatics has not had since shortly before Sylvester Sage Crosby picked up his pen. As was the case with the Crosby book, collectors today will certainly get some things wrong—but they will get many things right, find a lot of new information and provide a critical starting point for collectors for decades or centuries to come.

James F. Atlee, Albion Cox, Bob Birch, and the 1792 Birch Cent

by
Christopher R. McDowell; Cincinnati, OH[1]

Twenty-four years have passed since Gary Trudgen's article "Samuel and James F. Atlee Machin's Mills Partners" appeared in *The Colonial Newsletter.*[2] Trudgen's work brought to the numismatic community's attention the brewery where the Atlees and others manufactured counterfeit copper coins.[3] Within the Atlee Brewery's walls, many American coiners got their start or honed their skills producing coppers, including Walter Mould, Albion Cox, Samuel Atlee, James Atlee, Thomas Goadsby, and James Jarvis. The knowledge and experience gained at the brewery was later employed to manufacture authentic coins for Connecticut, New Jersey, and the United States.

Based on punch linkage analysis and other circumstantial evidence, many numismatists believe that James F. Atlee crafted the dies used to manufacture counterfeit coins at the Atlee Brewery as well as a host of other Confederation Era coins, including some New Jersey coppers struck at the Rahway Mint. The first portion of this article reassesses the Atlee broken "A" punch theory and James' coining skills and concludes that he did not engrave all the dies credited to him, including those used to mint New Jersey coppers. The remainder of the article seeks to determine who, if not James, engraved the dies used at the Rahway Mint. This search leads to the engraver and steel punch manufacturer Bob Birch. The evidence presented herein demonstrates that Bob Birch most likely engraved some or all of the dies used at the Rahway Mint: 1) in 1784, Bob Birch, who was then living in New York City, advertised his engraving skills; 2) in 1787, he sued Albion Cox, the holder of the New Jersey coining grant; 3) in 1788, he moved to Philadelphia and went to worked for Henry Voigt, the future chief coiner of the US Mint, and John Harper, the former supervisor of the Rahway Mint; 4) in 1792, Bob Birch crafted the dies for the Birch Cent; 5) the US Mint's records for 1793 indicate Bob Birch received payment for services.

The story begins with the arrival of Samuel Atlee to New York City from England on November 3, 1783, just three weeks before the British evacuation.[4] Immediately upon his arrival he took over operation of the defunct Harrison Brewery in the City's West Ward, which was the largest industrial facility in America at that time. The brewery was badly damaged during the war and its owner, Richard Harrison, was eager to lease it to anyone who would agree to take it over. The source of Samuel's financing to lease and restore the business is unknown, as is the price he paid. Prior to his departure for America, Samuel's life was in shambles; his wife divorced him and both he and his distillery near Bath went bankrupt in 1782.[5] Like many immigrants before and after him, Samuel was probably hoping to make a fresh start in a new land when he boarded a sailing ship bound for America in late 1783.

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1 I would like to thank Gary Trudgen, Ray Williams, Jeff Rock, Phil Mossman, Syd Martin, Brad Karoleff, John Kleeberg, Pete Smith, and Sarah Herron for their valuable assistance and contributions to this work.
2 *CNL*, Serial No. 92, Vol. 32, No. 3, Oct. 1992, p. 1317.
3 The brewery was first mentioned by Everett T. Sipsey in his article "New Facts and Ideas on the State Coinages – A Blend of Numismatics, History, and Genealogy –," *CNL*, Series 15, Vol. 5, No. 3, Oct. 1964, p. 65. Sipsey incorrectly stated that the brewery was located along the East River, when it was actually located on the Hudson.
4 The author is in possession of a copy of Samuel Atlee's petition to the New York State Assembly requesting citizenship, which was formerly believed to have been destroyed in the 1911 State Library fire in Albany, NY.
5 Trudgen, "Samuel and James F. Atlee," *CNL*, Oct. 1992, App. B (containing copy of bankruptcy notice from *The London Gazette,* Sept. 3, 1782).

Despite Samuel's best efforts, however, the brewery was unsuccessful. Newspaper advertisements and other documents from the period show that he was selling beer in 1785 for half of what it brought the year before. Although Samuel's son, James, joined him at the end of 1784, neither Samuel nor James could do anything to increase beer sales in the face of the economic depression that hit New York City after the war. The contemporary evidence supports the conclusion that beer sales ceased in the summer of 1785. With beer production halted, Samuel and James turned their full attention to the only business they had left, counterfeit coin production.

I. The Counterfeit Connections

Because counterfeiting is a covert activity, direct evidence connecting a person to counterfeiting is difficult to obtain absent a criminal conviction. In the case of Samuel and James Atlee, the evidence is largely, but not entirely, circumstantial and comes mostly from court pleadings and other documents demonstrating their association with men who were known to be in the business of making coins, both counterfeit and official. In order to show that the Atlees and others were involved in counterfeiting it is necessary to examine in detail their connections, however slight, with known coiners and also men who supplied materials needed to manufacture coins.

Information suggests that Samuel Atlee was involved in counterfeit coin production at his brewery before he sold his first barrel of beer. Walter Mould, a recent English immigrant, and a man who is believed to have left his native country after he and his wife were found "with a great many tools belonging to the coining business,"[6] wrote a letter to James Jarvis dated February 20, 1784, in which he discusses a seemingly clandestine joint venture with a gentleman from "the West of England to fix in the Malting Business. I told him I could do nothing without your Consent but I really have a great Opinion of it and it may be carried on at that Place with the other at a small expense."[7] The letter was written while Mould was onboard a ship bound for England on business for Jarvis—some historians believe that the purpose of Mould's trip to England was to ferry his coin-making equipment to America.[8] The intentionally cryptic nature of the correspondence makes it unclear who, or what, is being discussed leaving researchers a lot of opportunity to fill in the void with conspiracy theories and speculation. For this reason, an entire theory cannot be built on the shaky foundation of this one letter; rather, it is just one piece to a much larger puzzle. If one assumes Mould and Jarvis were involved in counterfeit coin manufacture in New York City prior to Jarvis' operation of the authorized Connecticut mint and Mould's involvement in the authorized New Jersey mint, which, based on what we know of them is an entirely fair assumption, then it is quite possible that Samuel Atlee offered them space within his brewery to conduct the elicit enterprise.

Samuel was born in Wilton, England and operated a brewery in Bath, just a short distance from the western English town of Bristol where Mould and his wife were discovered with counterfeiting tools. Thus, Samuel fits the description of a gentleman "from the West of England." Additionally, Samuel controlled a four story malt house and the largest brewery in America;[9] therefore, he would have been appropriately described by contemporaries as being involved in the "malting

6 *The Gentleman's Magazine and Historical Chronicle*, Vol. XLVI (1776), pp. 92–93.

7 Dennis Wierzba, "A Link Between Walter Mould and James Jarvis," *C4N*, Vol. 7, No. 2, Summer 1999, p. 24. The letter was reprinted in *The C4 Newsletter* in its entirety and is well worth reading.

8 Ibid. See also, Gary Trudgen, "Walter Mould's Letter of February 20, 1784," *C4N*, Vol. 7, No. 3, Fall 1999, p. 10.

9 The brew building was 60 x 30 feet and described as the largest in America, while the malt house, which was 4 stories tall, was 60 x 31 feet. There was also a "mill house" that was 30 x 25 feet and contained a complete horse mill and a "sizable pair of iron rollers." In total, there were over 10 buildings on the brewery grounds, including several dwelling houses. *New-York Journal* (New York, NY), Oct. 12, 1769, p. 4; *Rivington's New York Gazetter* (New York, NY), Dec. 8, 1774, p. 4.

business." At a later date, Samuel was directly involved with Mould and others in the New Jersey coining venture. This subsequent connection lends credibility to the possibility of a previous acquaintance. Based on this evidence, Samuel Atlee was probably the gentleman from the west of England mentioned in the letter and he may have leased space in his brewery to Mould and Jarvis to manufacture counterfeit coppers as early as 1784. If this is accurate, the Atlee Brewery manufactured both beer and coins from its inception.

The Atlee Brewery was perfect for a counterfeiting operation—there were many buildings where a coining press could be located. Additionally, the brewery boasted a mill house contained a "sizeable pair of iron rollers" to flatten copper into sheets of the desired thickness for coining and a separate cooper shop where copper blanks could be prepared for striking.[10] Ships could approach the brewery from the Hudson River to load and off-load equipment and supplies without the harbor master or customs agents asking questions. At the same time, the brewery was far enough from the city that prying eyes could be kept at bay, but close enough to the mint's customers that delivery expenses would not eat into profits. The brewery provided a ready-made distribution network to deliver the bogus coins to merchants who purchased counterfeits in bulk for a percentage of their face value. Large horse drawn draft wagons carrying beer barrels could easily be detoured to drop off barrels containing coins instead of beer to customers. In this way counterfeit coins could be delivered in broad daylight without arousing suspicion. Additionally, the brewery provided cover for the purchase of raw materials needed for counterfeiting. While a large purchase of copper by a bookseller might arouse suspicion, no one would blink an eye at a brewery's purchase of large quantities of copper since the metal was needed to repair fittings and manufacture hoops for beer barrels. Suspicion could be further allayed by purchasing copper from a variety of merchants, which would have the added benefit of helping to ensure a steady supply. In all probability a brewery had other characteristics that made it ideal for counterfeiting that are not apparent to modern-day researchers. One surmises that Samuel Atlee, eager to sub-lease as much space as possible in his huge brewery, discussed these attributes with Walter Mould in order to convince him to locate his coining operation at the Atlee Brewery.

Based on the information contained in Jeff Rock's article, "An Edinburgh Hoard of Counterfeit British Halfpence: Cottage Industry Coiners," that appears elsewhere in this issue of *The Colonial Newsletter*, one other possibility presents itself. Most of what is contained in the preceding paragraph is a universal truth that can be applied to almost any brewery anywhere in America or England. That is, breweries, in both countries were superb locations for counterfeit coin operations because they provided cover for large copper purchases, had available space, and a ready distribution network of heavy barrels of coins. As will be seen shortly, many numismatists believe that James F. Atlee came to America with skills beyond his years in the art of coin manufacture and die preparation. It might therefore be possible that Samuel and James were not new to the business of counterfeit coining having previously engaged in that activity at their brewery in Bath, England. If Samuel offered his brewery as a location to counterfeit coins before he brewed his first barrel of beer, it tends to show a proclivity and awareness of counterfeiting that one would not expect from someone unaccustomed to the business.

A. James F. Atlee:

If Mould and Jarvis struck counterfeit coppers at Samuel Atlee's brewery in 1784, it is unknown who initially fashioned the coining dies because James Atlee had not yet arrived in America.[11] Based on the fact that he was previously caught with coining tools in his possession and is

10 Ibid.

11 Trudgen, "Samuel and James F. Atlee," p. 1322—"James F. Atlee arrived in America approximately one year after his father."

believed to have crafted dies for the authorized Morristown Mint, one possibility is that Walter Mould engraved the dies until such time as James arrived from England and took over the work.[12] James is credited by many as being a master engraver who sank the dies for a plethora of Colonial coins. Walter Breen and others credit him as the engraver for all but a few of the Vermont bust coppers,[13] a group of 1786 and 1787 counterfeit Connecticut coppers,[14] the 1786 Rahway New Jersey coppers,[15] the 1786 Non Vi Virtute Vici coppers,[16] Thomas Machin's March 1787 pattern pieces, all the George III Machin's Mills coppers,[17] the Mould-Atlee "Tory Coppers,"[18] his own 1787 pattern piece for the Confederation coining contract as well as Immunis Columbia patterns for Gen. Matthias Ogden's Confederation proposal, and others.[19]According to Breen, "all these coins share letter punches with coppers that Atlee made for the Vermont Mint in 1787 pursuant to the contract between Machin's Mills and the legal Vermont coiners."[20] Specifically, Breen and others believe that James' punches included an "A" that was broken or cracked (Fig. 3), making it easy to identify the dies he prepared.[21] Breen also believed that James used several sets of punches in his career, not all of which included the broken "A," but all of them connected by punch linkage with the others.[22] The broken "A" is the most distinct of these punches and James is generally believed to have been the owner and user of the broken "A" punch.[23] The broken "A" punch theory has come under intense criticism by some researchers bringing into question which dies, if any, James actually fabricated.[24] As explored below, there are many reasons why some of these dies might contain evidence of a broken "A" punch or share common punches other than they were sunk by James' hand. Furthermore, the ubiquitous broken "A" appears on dies exhibiting a very wide range of workmanship from the exceedingly poorly executed Vermont RR-30 (Fig. 1) to the highly sophisticated and expertly crafted 1787 Immunis Columbia (Fig. 2), making it unlikely they were all engraved by the same man.

12 See, Gary Trudgen, "James Atlee's Imitation British Halfpence," CNL, Serial No. 75, Vol. 27, No. 1, March 1987, p. 966.
13 Walter Breen, *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins*, (Doubleday, New York, NY, 1988), pp. 63–65.
14 Ibid, p. 67. (Miller 1786 1-A; 2.1-A; 2.1-D.3; 2.2-D.2; 3-D.1 / 1787 1.1-A; 1.1-VV; 3-G.1; 13-D; 52-G1; 52-G.2).
15 Ibid, p. 78.
16 Ibid, p. 91.
17 Ibid, pp. 94–98.
18 Ibid, pp. 98–99.
19 Ibid, pp. 122–123. In his book, *Counterfeit Georgian Copper Coins*, Richard Coleman credits James with crafting the Brasher gold doubloon dies. (Token Pub, Devon England, 2015), p. 19.
20 Ibid, p. 123.
21 See, Jack Howes, "A New (and Long Overdue) Guide to the Identification of Machin's Mills Halfpence," *C4N*, Vol. 14, No. 1, Spring 2006, p. 5; See also, Evan Perrault, "Machin's Mills Counterfeit Halfpence and the Role of James Atlee," *The Centinel*, Vol. 49, No. 4, Winter 2001, p. 27.
22 Walter Breen, "The 'New York' Immunis: A Mystery Unraveled," *CNL*, Serial No. 54, Vol. 18, No. 1, April 1979, p. 667, 670.
23 The theory has a long a distinguished pedigree. It was first postulated by Sylvester S. Crosby in his book, *The Early Coins of America*, in 1875, pp. 287–288.
24 See, e.g., Michael Hodder, "The 1787 'New York' Immunis Columbia A Mystery Re-Raveled," *CNL*, Series 87, Vol. 31, No. 1, Jan. 1991, p. 1204; John Lorenzo, "The So-Called Atlee Broken 'A' Letter Punch" *Coinage of the American Confederation Period*, edited by Philip L. Mossman, Coinage of the Americas Conference, Oct. 28, 1995, at the American Numismatic Society, Proceedings Number 11, New York: American Numismatic Society, 1996, pp. 131–151; Q. David Bowers, *Colonial and Early American Coins*, (Whitman Pub., Printed in China, 2009), p. 83; Neil Musante, *Medallic Washington*, Vol. I, (Spink's, London, 2016), pp. 8–13 (suggesting Mould and/or James Atlee acquired Benjamin Dudley's letter punches and dies).

Figure 1. 1788 dated Ryder-30 Vermont—The lettering on the obverse die of RR-30 is crudely aligned, with a backwards "C" punch and "MO" overlap. *Courtesy of Sydney F. Martin.*

Figure 2. Although the 1787 Immunis Columbia exhibits the same broken "A" punch as the Ryder-30 Vermont, the craftsmanship is clearly superior with properly aligned lettering and no overlaps. *ANS 000.999.28548.*

Figure 3. Impressions from the broken "A" punch—from left to right: 1786 New Jersey Maris 18-M; 1787 Vermont Ryder-12; 1788 Vermont Ryder-16; 1787 Immunis Columbia; 1787 Connecticut Miller 1.1-A; 1787 Neo-Eboracus.

While much advancement in our understanding of Colonial coinage has occurred as a result of punch-linkage analyses, some incorrect conclusions are mixed in with the outstanding research. Not all researchers approach the study with the same scientific rigor. Moreover, even the most careful analysis requires some degree of subjective human opinion, as Byron Weston wrote, "[r]egardless of the number of points that may be shared within a group of counterfeit halfpence, establishing the link may be more a matter of human perception. Common points, or the link fingerprint, help in establishing the link, but it is the eyeball comparison and human judgment that must logically conclude the link."[25] Human judgment and perception are, of course, fallible. Weston suggests there are three methods to establish a link: first, die linkage, which is considered the most accurate; second, punch linkage, which is less accurate; and third is engraving style, which is the least accurate method.[26] In the case of the broken "A" punch, the second method is used. None of these linkages should be treated like a DNA match; where there is doubt modern researchers should reexamine the evidence and draw their own conclusions. Finally, all linkages should be illustrated with images of the highest grade coins available. In today's digital world, there is no reason why this cannot be done. In the past, readers were often asked to accept the researcher's word that a connection existed; today, all links must be verified with images so readers can see the dies, punches, or engraving style for themselves, make their own comparisons, and draw their own conclusions as to whether a link has been established.

Devotees of the Atlee broken "A" punch theory, like Breen and others, believe that James Atlee, who had no known training as a silversmith or engraver, was the single most prolific diecutter of the Confederation Era other than Abel Buell; and even Buell had assistance from his sons and apprentices.[27] Many of the punch-linkage connections using the Atlee broken "A" punch theory do not hold up under scrutiny.[28] However, even if the Atlee broken "A" theory can connect dies from different series, it does not definitively mean the engraver of all the dies was James F. Atlee. James could have lent his tools to another die-sinker or the "A" punch could have been formed from a matrix that produced many broken "A" punches, thereby putting nearly identical broken "A" punches into the hands of several engravers; one of whom could or could not have been James.

Even if the Atlee broken "A" punch theory is partially or entirely discredited by future researchers as a diagnostic tool connecting dies across various series, the possibility that James Atlee was a skilled diecutter and knowledgeable coiner cannot be dismissed. James possessed both an interest in coining and specialized coining skills. On February 2, 1787, he was the first person to petition the New York State Assembly for a copper coining grant. Unfortunately for James, New York did not authorize anyone the right to coin official state coppers, rejecting all five of the petitions submitted. However, the fact that James would seek the coinage grant speaks to the fact that he felt himself capable of carrying it to completion. The most logical place where James would have obtained experience minting coins was at the Atlee Brewery making counterfeits or possibly his father's distillery in Bath. In all probability, James supervised the production of counterfeits at the Atlee Brewery and lived in one of the houses on the property. Oversight of the coining press would not have been his sole responsibility as he clearly was

25 Clement Schettino & Byron Weston, "The Categorization of Counterfeit British & Irish 1/2d & 1/4d of George II & III: A Preliminary Progress Report on Family Groups & Subgroups," CNLF eGroup (2002), the quoted material is from Appendix A, Byron Weston, "Establishing a Link Fingerprint."
26 Ibid.
27 Christopher R. McDowell, *Abel Buell and the History of the Connecticut and Fugio Coinages*, (C-4, Sheridan Books, Ann Arbor, MI, 2015), pp. 101–118.
28 See, e.g., Hodder, "The Immunis Columbia," *CNL*, Jan. 1991, p. 1204, wherein Hodder criticizes the Atlee broken "A" theory and argued that the dies for the 1787 Immunis Columbia could not have been engraved by James Atlee; see also, articles listed in footnote 24.

apprenticed to the brewing trade as evidenced by his success in that industry upon his return to England.

James' coining skills were not imaginary. After he and his father joined the Machin's Mills counterfeiting operation in 1787, the partnership documents (known as the "Indenture") specify that "James F. Atlee and Thomas Machin shall equally manage act and perform that part of the trade which concerns the manufactory of hard-ware…."[29] The word "hardware" was, at the time, code for counterfeit coins. Thus, James, who was probably in his mid-twenties, was given joint responsibility with Capt. Thomas Machin, a highly skilled and accomplished engineer, to manufacture coins at a mint located on land settled by Capt. Machin, but owned by Gov. George Clinton.[30] Such an arrangement speaks loudly to the acknowledgment by the other Machin's Mills' partners of James' coining skills.

Certain other aspects of the Machin's Mills Indenture have led some researchers to believe that James F. Atlee was also a skilled engraver. The April 1, 1787, Indenture states that "Samuel Atlee, and James F. Atlee being possessed of certain implements for carrying on said trade, do agree to lend them to the [partnership]…." Past researchers have speculated that the "implements" mentioned were engraving tools and punches, but this seems unlikely. First, the "implements" at issue were jointly owned by James and his father, whereas small engraving tools were normally the personal property of a single engraver. Second, while engraving tools are useful, what is really important is the skill of the man wielding such tools. This would be like entering into a partnership with Leonardo da Vinci to make portraits and asking him to lend his paint brushes to the endeavor when what is really needed is his skill with a brush. Paint brushes, like engraver's tools, were relatively inexpensive and available in 1787. The Indenture is a lengthy document covering every conceivable aspect of the partnership; therefore, if James F. Atlee was required to employ his specialized engraving skills to manufacture the dies for the coins, one would expect that fact to be spelled out in the Indenture. The partnership agreement, however, is silent concerning the manufacture of the coining dies. Finally, the punches employed at Machin's Mills in 1787 included the famous broken "A" punch, but the punches allegedly used by James at the Atlee Brewery to fabricate 1786-dated dies that struck Connecticut counterfeits and other coins did not include a broken "A" punch. Thus, it is more likely that Samuel and James possessed a press, rollers, cutters, and other "implements" of the coining trade that were transported by ship up the Hudson from the brewery's private dock to Machin's Mills, located near Newburgh, New York.

An eye-witness account states that James F. Atlee engraved the dies for the Machin's Mills partnership. Thomas Machin, Jr., the son of Capt. Thomas Machin, stated in a letter written in the 1840s regarding the mint that "Atlee, *the engraver*, wore a horrid mask, and frightened some boys who came to fish so they never ventured near the mill again."[31] On its face, this account appears authoritative considering that Thomas Machin, Jr. was presumably aware of the activities taking place at his father's business and was, at the time the letter was written, a well-respected Army officer having attained the rank of Brigadier General in the War of 1812; however, Thomas Machin, Jr. was born on July 17, 1785, which would mean he was between 2 and 4 years-old at the time James worked at the mint. Some aspects of Gen. Thomas Machin's story have been questioned over the years,[32] but the fact remains that it is the only direct account of who the engraver for the Machin's coinage was and, although Gen. Machin was a

29 Machin's Mills Indenture, reprinted in, Crosby, *The Early Coins of America*, pp. 192–202.
30 Gary Trudgen, "Machin's Mills," *CNL*, Serial 68, Vol. 23, No. 2, July 1984, p. 862.
31 E. M. Ruttenber, *History of the Town of Newburgh*, (Ruttenber & Co, Printers, Newburgh, NY, 1859), p. 135 (emphasis in quotation added).
32 Michael Hodder, "Halloween at Machin's Mills," *CNL*, Serial 86, Vol. 30, No. 3, Oct. 1990, pp. 1190-1191.

toddler at the time the mint was in operation, it could be expected that he heard tales of the mint from his father. Indeed, Gen. Machin's description of the building and how coins were made is considered to be accurate.[33] As such, while the account should be questioned, it cannot be entirely dismissed.

Die sinking is a complex art requiring the engraver to cut a steel die in a mirror negative image of the desired impression. It is not a skill easily mastered. Rather, it is an ability developed over a lifetime following an apprenticeship overseen by a master engraver. Young James Atlee may have learned to engrave in England, if it is assumed his father engaged in the business of counterfeiting there. Alternatively, he may have learned the skill from Walter Mould at the brewery in 1785. Abel Buell's sons, who were teenagers when their father departed for England, were able to acquire the rudimentary aspects of die engraving from him over the course of a few years at Connecticut's New Haven Mint.[34] However, Abel Buell was a master engraver, silversmith, and inventor who was making dies on an almost daily basis during the period when his sons, William and Benjamin, were apprentices to him. Yet, when separated from their father at an early age, the boys' efforts at die engraving were amateurish and they relied on old dies and hubs left behind by their father instead of crafting their own dies. Presumably, any apprenticeship in the art of die engraving James received in England or America would not have been with a master nearly as talented as Abel Buell or with as many opportunities to cut dies as Buell's sons had. Therefore, if we continue to believe that James was an accomplished die-sinker, we are left with the conclusion that he was a naturally gifted artist who somehow acquired the knowledge to engrave coining dies on his own or after an abbreviated apprenticeship in England or America.[35] The more likely scenario, however, is that James simply contracted the manufacture of coining dies to master engravers and did not perform the task himself.

There were many highly skilled master engravers working in New York between 1785 and 1788, who were willing to work cheaply and were fully capable of engraving coining dies. At the time, engravers ranked low in the cultural hierarchy, well below, for example, poets. This might be because counterfeiting was virtually an occupational disease to which many succumbed.[36] The city's newspapers regularly printed notices from engravers seeking employment. Some, like Peter Maverick, who in 1786 advertised his abilities as a "seal sinker" and copper plate engraver,[37] were honest men who possessed great skill, while others, like Henry Dawkins, were drunkards and convicted counterfeiters. Numismatists have labored under the false impression that only highly compensated silversmiths were capable of sinking coining dies, but the truth of the matter is that New York City silversmiths almost always subcontracted complex engraving tasks to master engravers, who were lowly paid workers.[38] That James Atlee would engrave

33 In private correspondence between the author and Gary Trudgen, it was indicated that Gen. Machin's description of the Machin's Mills' facilities was very accurate.

34 John Hancock, Jr. and Peter Maverick, Jr were also accomplished engravers at a very early age.

35 James F. Atlee was highly intelligent – he was also very articulate and inquisitive. These traits are apparent from reading his Oct. 6, 1825 letter to the editor of the *Register of the Arts and Sciences* (Cowie & Co., London, 1826), Vol. 3, p. 100, wherein he describes his patent on condensed wood and its usefulness to industry.

36 The list of engravers who succumbed to counterfeiting includes Abel Buell, Richard Brunton, Samuel Casey, Henry Dawkins, Samuel Ford, Martin Binsky, and Isaac Clements.

37 *New-York Packet* (New York, NY), March 16, 1786, p. 3.

38 David L. Barquist, "'That Noted and Proficient Mechanic,' The Life and Career of Myer Myers," an essay in *Myer Myers: Jewish Silversmith in Colonial New York*, (Yale Univ. Press, New Haven, CT, 2001), p. 38. Based on invoices, diaries, billings, and other documentation, Barquist determined that "although the level of artistry of engraved decoration on New York silver is high, its cost was very low relative to the cost of the object it adorned." More specifically, he determined that "the engraver's contribution seems to have been valued consistently at about 20 percent of the silversmith's, with engraving accounting for

all the dies attributed to him without any assistance seems improbable. Moreover, it would be completely unnecessary for one man to perform all this work as there were easily half a dozen men like Bob Birch, Peter Maverick (Fig. 4), Henry Dawkins, and Abraham Godwin (Fig. 5), all accomplished seal sinkers[39] and engravers, actively seeking employment in New York City and more in nearby Philadelphia.[40]

THE Subſcriber, ever willing to ſerve the public, reſpectfully informs them, that he carries on the engraving, ſeal ſinking and copper plate printing, at No. 3, Crown-ſtreet, where ladies may have their tea-table plate engraved, in the moſt elegant manner and in the neweſt faſhion, reſembling the flat chaſing, as neat as in Europe,

By their humble ſervant,

1 76 3m PETER MAVERICK.

A LOT of GROUND

In Dey-Street, to be ſold. Enquire as above.

Figure 4. 1786 Advertisement by Peter Maverick.

ABRAHAM GODWIN,

ENGRAVER,

Three Doors South of St. Paul's Church,

Broad-way.

EXECUTES all kinds of buſineſs in that line, viz. copper-plates for books of any kind, moſs, cards, bills, arms, creſts, cyphers, &c. ſinks ſeals in gold, ſilver, ſteel, or any other kind of metal; he likewiſe ornaments ladies or gentlemen's gold or ſilver watches, plate, &c. in the neateſt and neweſt faſhion, and with diſpatch; all on the moſt reaſonable terms.

N. *B.* Mourning-Rings *made on the ſhorteſt notice.* *Oct.* 31. tf.

Figure 5. 1785 Advertisement by Abraham Godwin. *Daily Advertiser* (New York, NY), Nov. 12, 1785.

In the fall of 1794 James returned to England and engaged once more in the business of distilling spirits, this time with great success. There is no evidence that he ever advertised as an engraver before dying a wealthy man in London on July 29, 1840. No engraving, copper plate, or die with his name has ever been found and other than the recollections of a toddler, no contemporary account identifies him as an engraver. Therefore, an examination of James F. Atlee's life demonstrates that prior to 1787 he obtained specialized knowledge in the art of coin-making, most likely at the Atlee Brewery, and utilized that knowledge at Machin's Mills alongside Capt. Machin, but his involvement was primarily in the area of coin manufacture,[41] not die engraving.

Based on the above, the evidence does not support the conclusion that James Atlee engraved all the dies attributed to him by Breen and others. James possibly assisted in the fabrication of dies or may have even engraved a few, such as the 1786-dated counterfeit Connecticut coppers; he just did not make all the dies currently attributed to him. It is further surmised that most of the dies ascribed to

about 5 percent of the finished object's total cost."

39 The manufacture of seals is an art substantially similar to the crafting of coining dies. Both arts call for the use of negative mirror images to be cut into a metal to be used to strike multiple impressions.

40 Philadelphia engravers included David Tew, J.P. Malcom, Samuel Folwell, James Paupard, John Darragh, Robert Scot, Henry Pursell, and James Tranchard.

41 In 1964, Everett T. Sipsey cast doubt on the belief that James F. Atlee was a die-sinker.

James are attached to him simply because no alternative to him exists and Gen. Machin said he was the engraver at Machin's Mills; thus, every die with a broken "A," like those produce at Machin's Mills, are incorrectly believed to have been his work. But, if James did not engrave all the Confederation Era dies attributed to him, who did? The identity of at least one other engraver can be determined by studying Albion Cox, the owner of New Jersey's Rahway Mint. Cox was sued by the New York City engraver and steel punch manufacturer Bob Birch at a time when Cox was coining New Jersey coppers. The fact that Birch was a diecutter is confirmed by new evidence demonstrating that he engraved the dies for the 1792 Birch Cent.

B. Albion Cox and Bob Birch:

At the May 25, 1784 session of the New York Mayor's Court, Samuel Atlee and William Alexander were sued by John Morgan, a tavern keeper at the corner of Golden St. and Maiden Lane, New York. A year later, they were sued by Richard Morgan, a porter house keeper at 16 Front Street, New York. In November 1785, Samuel Atlee, William Alexander, John Perkins, and James F. Atlee were all sued by John Conway, a tavern keeper at 39 King Street, New York. Newspaper notices published between 1784 and 1785 show that initially Samuel Atlee was partners in the brewery with William Alexander and that sometime late in 1784 James F. Atlee and John Perkins were added as partners. These cases are insignificant to coining, but are mentioned here to show how connections between men and their businesses can be accurately determined by reviewing the Mayor's Court's minutes. If nothing of Samuel Atlee was known other than these cases, they would inform us that he was associated with William Alexander and later John Perkins and James F. Atlee and that these men conducted a business, likely a brewery, in which they sold goods to New York City taverns —all true facts. In this same way the pleadings can be used to establish connections between coiners, like Albion Cox, who had a habit of not paying his suppliers, employees, or friends, for the materials and services he used to manufacture copper coins.

The connection between the dies attributed to James F. Atlee, but actually manufactured by Bob Birch runs through Albion Cox, who was associated with both men. James and Samuel Atlees' connection to Cox is one of the reasons, in addition to the broken "A" punch theory, that James is often credited with making the dies for some of the New Jersey coppers. Although the court records examined below make it clear that Cox was associated with the Atlees, nothing about these cases specifically indicates that the association was the result of James' manufacturing dies; however, the records do associate Cox with the diecutter Bob Birch.

Cox was, by all accounts, a gifted assayer—a skill required for the manufacture of coins, particularly those made from gold or silver. In April 1773, he testified before Parliament on matters favorable to the Sheffield silver refiners, which testimony resulted in the establishment of the Sheffield Assay Office. Perhaps in recognition of the importance of his testimony to the founding of the assay office, in 1773, while still a young man, he became one of the original guardians of that office.[42] After only a year, Cox resigned his position at the assay office and moved to London to work with a relative in a thriving goldsmith and jewelry firm where he remained until deciding to immigrate to America in 1783. Cox brought with him to America an extraordinary knowledge of precious metal refining. Regardless, his first venture in this country was as a merchant in New York City, which had been ravaged by the war and was suffering through a serious economic depression as a result of the loss of its former overseas trading partners. Next, he partnered with the well-connected merchant-silversmith Daniel Van Voorhis. More specifically, in late 1784, he partnered with Van Voorhis, Simeon Bayley, and William H.

42 Michael Hodder, "Albion Cox and John Harper Gleanings From the Birmingham and Sheffield Archives," *Penny-Wise*, Vol. 27, No. 2 (1993), p. 81.

Coley at 27 Hanover Street in New York City's East Ward to explore coining opportunities.[43] At the end of April 1785, Cox who was apparently difficult to work with and a poor manager of money, left the partnership spending the next few years in litigation with his former partner Simeon Bayley.[44] Immediately following Cox's departure from the business, Van Voorhis and Coley joined with Reuben Harmon, Jr. to manufacture authorized Vermont coppers.

In May 1786, less than a year after he left the Van Voorhis' partnership, Cox, along with his new partners, Thomas Goadsby and Walter Mould, submitted a coinage petition to the New Jersey Assembly.[45] Numismatic researchers believe that Cox joined Mould, and possibly Jarvis, in 1784 to manufacture counterfeit coppers at the Atlee Brewery. The experience making coins at the brewery gave Cox and Mould the confidence they needed to petition New Jersey for the coining contract. Cox, Goadsby, and Mould's petition to manufacture New Jersey coppers was granted on June 1, 1786.[46] Within six months of the grant, Cox and Goadsby were back before the Assembly seeking to split from Mould and continue their portion of the contract apart from him. The request was granted, resulting in New Jersey copper production at two separate facilities, one in Rahway and the other in Morristown.

An indication that Cox and Mould, prior to their receipt of the New Jersey coining contract, were operating a counterfeiting operation out of the Atlee Brewery is found in the Minutes of the New York Mayor's Court's proceedings. At the June 6, 1786 session of court, Thomas Thomas, a New York City coppersmith, metal supplier, and agent for receipt of orders for the Atlee Brewery, whose shop was located at 206 Queen Street,[47] filed a lawsuit against Cox. The record shows that Thomas instructed the sheriff to arrest Cox for nonpayment of a debt and brought before the court to answer the charge. Because of the scant information provided in the minutes, the nature of the debt cannot be ascertained; however, there is no known legitimate reason why Cox would need copper or the services of a coppersmith other than the manufacture of coins.

Samuel and James Atlee are first publicly connected with Albion Cox a few months after the Thomas lawsuit. On October 24, 1786, they were joint plaintiffs with Cox in a case against Christopher Duyckinck, a New York City sailmaker. James Giles, an attorney who represented many men involved in coining and who, in 1787, become a partner of Machin's Mills, aptly represented the plaintiffs in the matter, eventually obtaining a judgment for the full amount sought. What business Duyckinck, a slaveholding ruffian and leader of a Jacobin Club that terrorized Tories and preyed on English merchant vessels during the war, could possibly have had with the Samuel and James Atlee and Albion Cox is unknown, but a clue may be found in his unusual Dutch last name. Less than two months after the judgment was taken against Christopher Duyckinck, his cousin, Gerardus Duyckinck, submitted a petition to the New York State Assembly seeking to manufacture New York copper coins.[48] Considering that neither the Atlees nor Cox had any known need for sails, the case probably had something to do with coining, but we may never know for sure. In any case, the lawsuit establishes a direct connection and joint business interest between the Samuel and James Atlee and Albion Cox at a time after Cox was awarded the New Jersey coinage contract.

43 Christopher R. McDowell, "Daniel Van Voorhis: New York City Coiner," *C4N*, Vol. 24, No. 1, Spring 2016, p.16.
44 *Independent Journal* (New York, NY), April 27, 1785.
45 Sylvester Crosby, *The Early Coins of America*, (Reprint, 1983), p. 275.
46 Ibid, p. 278.
47 *Independent Journal* (New York, NY), Feb. 26, 1785, p. 1.
48 Gary Trudgen, "Gerardus Duyckinck, Jr. Petitioner for New York State Coinage Grant," *CNL*, Serial No. 80, Vol. 28, No. 3, Nov. 1988, p. 1069.

The three men were not always plaintiffs, on at least one occasion they were joint defendants. During the September 18, 1787 session of Mayor's Court, Samuel and James Atlee along with Albion Cox were sued by John Murray, Jr., who is simply listed in *Frank's 1786 New York Directory* as a "merchant" with an address at 38 Queen St.[49] A review of the city's newspapers reveals that Murray was actually an ironmonger who imported iron, blistered steel, German steel, and faggot steel from Liverpool and Bristol, which he sold at his Queen Street shop.[50] The court records provide no details regarding the exact reason for the lawsuit, but the timing of the case, the nature of Murray's business, and the activities of the defendants, makes it likely that Murray was a source of die steel for New Jersey and counterfeit coppers manufactured by Cox and that he was not paid promptly for the goods he provided.

A case was brought by "Bob Birch" against Albion Cox at the March 6, 1787 session of the New York Mayor's Court. The first question raised by the lawsuit is the identity of the plaintiff. *Frank's 1786 Directory* does not list a Robert or Bob Birch in New York City. This does not mean that someone with that name did not live and work in the city, only that he was not an established merchant, artisan, or a member of upper society. A search of newspaper advertisements from the period reveals three identical notices placed in the *New-York Packet* in late 1784 by "B. Birch."[51] These are the only advertisements placed in the New York, New Jersey, or Pennsylvania papers by anyone matching the name of the plaintiff, "Bob Birch." The notice shows Birch was working out of John Stites' establishment at 178 Queen Street, which was just up the street from Murray's shop at 38 Queen Street where steel was sold, and very close to Thomas Thomas' coppersmith shop at 206 Queen Street. Of note, Albion Cox's address was listed as 240 Queen Street in 1786.[52] Birch's notice states he engraves "seals and copperplate, cyphers, crests, toys, trifles, etc" and concludes by announcing his ability to make "[a]ny curious punch or instrument in steel, iron, brass, etc." Although seemingly of no importance at first, but of substantial significance later, is the fact that Birch also indicates he is a watch repairman and capable of making or fitting any "Wheel, arbor, Pevot (*sic.*), Spring, Cock, Slide, Figure-piece, verge, &c" and that he fits "watch glasses" for a shilling and has a ready supply on hand.

There is no way to know for certain if the "Bob Birch" who sued Cox in 1787 and the London-born engraver "B. Birch" are the same man, but, when all the circumstances are considered, it is highly likely. Furthermore, B. Birch is the only known person who answers to the description. The most obvious reason why the obscure steel engraver Birch would file suit against the ne'er-do-well coiner Cox is because Cox failed to pay him for fabricating coining dies. If Birch was engraving steel coining dies for Cox, what was James Atlee, who is believed to have performed that task, doing? Is it possible that all or some of the dies attributed to James Atlee were actually the product of Bob Birch? Other than the 1784 newspaper notice and the lawsuit, what other evidence exists that Bob Birch was an accomplished die-sinker or connected to Albion Cox or the Rahway Mint? A theory regarding possible answers to these questions is presented below.

49 H.J. Sachs & Co, *The New York Directory for 1786*, (New York, NY, 1786), p. 63 (*"Frank's Directory"*). Like many streets with regal sounding names, Queen Street was changed after the war to Pearl Street—it runs from Battery Park to the Brooklyn Bridge.

50 *New-York Packet* (New York, NY), May 22, 1786, p. 3; *Daily Advertiser* (New York, NY), May 25, 1787, p. 4. Blister steel that was drawn up into thin bars so it could be easily worked was known as "faggot steel."

51 See, *New-York Packet* (New York, NY), Nov. 22, 25 and Dec. 20, 1784.

52 *Frank's Directory*, p. 51.

II. The 1792 Pattern Coinage

Bob Birch is a controversial name in American numismatics and depending on whom you ask either ample evidence exists that a man with that name was an accomplished diecutter who helped craft the first pattern dies for US Mint or he tended the Mint's horses and nothing more. One of the longest enduring numismatic riddles is the identity of the engraver of the 1792 Birch Cent—so-called because the name "BIRCH" appears under the bust (Fig. 6).

Figure 6. 1792 Birch Cent. This particular coin sold for $2,585,000.00 at Heritage's 2015 FUN Action, lot 5504. There are several varieties of this coin including one with a reverse inscribed with "GWP," for George Washington President. It is believed that the legend on the obverse of the coin, "LIBERTY PARENT OF SCIENCE & INDUSTRY," originates from a line written by Joseph Willard, president of Harvard College in 1789. See, Musante, *Medallic Washington*, Vol. I, p. 97. *Image courtesy of Heritage Auctions.*

An examination of advertisements from every available newspaper between 1784 and 1793 shows that the only known active engraver working in the United States in 1792 with the last name of Birch was "B. Birch." Despite this, as recently as 1954, the generally accepted opinion was that the diecutter for the 1792 pattern coinage was Thomas Birch; however, research conducted by Walter Breen, and confirmed by others, concluded that this theory was untenable because Thomas Birch was 13 years old in 1792.[53] Breen opined that Robert Birch engraved the dies.[54] In 1966, Don Taxay proposed that the engraver was the man who published the 1784 New York advertisement, Robert "Bob" Birch,[55] but little evidence was available at the time to support Taxay's conclusion and it fell out of favor after the 1982 publication of Carl W. A. Carlson's study on the topic in *The Numismatist*.[56]

53 Walter Breen, "The United States Patterns of 1792," *The Coin Collector's Journal*, monograph (Wayte Raymond, Inc., New York, 1954); Carl Carlson, "Birch and the Patters of 92: An Historical and Critical Reanalysis," *The Numismatist*, March 1982, p. 637. Thomas Birch, who was the son of William Russell Birch, also did not immigrate to America until 1794.

54 Breen, "The United States Patterns of 1792," p. 12.

55 Don Taxay, *The U.S. Mint and Coinage* (ARCO Pub. Co., New York, 1955), p. 58 n. 29, 73.

56 Carl Carlson, "Birch and the Patters of 92: An Historical and Critical Reanalysis," *The Numismatist*, March 1982, p. 628.

Carlson, who did not have available to him the 1787 lawsuit between Bob Birch and Cox or the additional new information presented below, argued that the English engraver William R. Birch, the father of Thomas Birch, fabricated the dies;[57] however, William and Thomas did not immigrate to America until 1794, William does not mention the 1792 pattern coins or die engraving in his autobiography released in 2011,[58] and no evidence shows he ever engraved any coining dies at any point during his life. Supporters of the William R. Birch theory partially circumvent these facts by arguing that William secretly traveled to America for a few months in 1792 to work under contract for John Harper to prepare the dies[59] or that he made the dies in England and shipped them to America, but again no evidence supports these assertions. To the contrary, contemporaneous letters written by Henry Voigt and David Rittenhouse cast cold water on the timing of the dies being manufactured anywhere but America.[60] Moreover, William Birch's own recollections as reflected in his autobiography militate against the speculation of an unrecorded American journey in 1792. Furthermore, it is illogical that the United States would request an Englishman with no known die-sinking experience prepare the dies for its first coinage when many local men were capable of performing that service for less money. The federal government, which was heavily burdened with debt from the Revolutionary War, was fiscally conservative in 1792. Finally, William R. Birch never collaborated with the Mint on any project once he finally arrived in Philadelphia in 1794. While some continue to argue that the engraver of the 1792 Birch Cent was William R. Birch, the mounting evidence strongly suggests otherwise.[61] Now that both Thomas and his father William Birch have been eliminated

57 Ibid.

58 William Russell Birch Papers, including "The Life of William Russell Birch Enamel Painter Written by Himself," MS Historical Society of Pennsylvania, Philadelphia.

59 Carlson, "Birch and the Patterns of 92," p. 642–643. William R. Birch's autobiography contradicts this theory.

60 Henry Voigt submitted a petition to President Washington on April 13, 1792, seeking an appointment to the US Mint. Voigt's letter was accompanied by a letter of recommendation from David Rittenhouse. Voigt received the appointment on June 1, 1792. On July 9, 1792, Washington wrote to Jefferson asking him to respond to a letter received from Rittenhouse, which read, in part:

> On consulting the Secretary of State I find that some of the Officers for the Mint are still expected from Europe. This will occasion further delay, as least as to going generally into Coining. But as small money is very much wanted we think proper, in the mean time (sic), if Your Excellency approves of it, to Coin some Copper Cents & half Cents, and likewise small Silver, at least Dismes & half Dismes. I have purchased, on Account of the United States, a House and Lot which I hope will be found Convenient for the Mint, but considerable alterations must be made, and some small new buildings erected. I have likewise engaged Mr [Henry] Voight to act as Coiner, and he has several workmen now employed in making the necessary Engines, and preparing the Dies. A quantity of Copper will be wanted; perhaps 15 Tons might be sufficient, and Measures for procuring it ought to be immediately taken, and for these several purposes some money will be required.

This letter indicates that as of July 1792, Voigt had workmen "preparing the Dies." The communications between these men also indicates they were concerned about cost. The timing of the activities put forth in the letter would not permit correspondence to and from England and transportation of dies from Europe. Consequently, the 1792 pattern coinage dies were made in America.

61 Walter Breen attributed the 1792 Birch Cent to William Birch in his *Encyclopedia of U.S. and Colonial Coins*, p. 155, reversing his opinion from 1954; however, Breen was unsure of the attribution and placed a question mark after the name. Pete Smith in *American Numismatic Biographies*, p. 28, states that in 2011 he "proved that William Russell Birch did not engrave the 1792 dies." https://archive.org/stream/2012AmericanNumismaticBiographies/2012AmericanNumismaticBiographies_djvu.txt. Pete Smith shared his proof with this author, which consists largely of his reading of William Birch's autobiography. The autobiography is devastating to any argument that William engraved the Birch Cent dies or traveled to America in 1792.

as possibilities, the time is ripe to re-examine Don Taxay's theory based on recently discovered evidence.[62]

Unlike William R. Birch, who never worked at or for the Mint, there is documentation supporting the Mint's employment of "Bob Birch." At the time the Birch Cent was struck in 1792 the Mint building was not yet complete and its records virtually non-existent. There are, however, Mint records for 1793 that show several payments to "Bob Birch in part for services." On July 1, 1793, for example, "Bob Birch" was paid $3.25 for unspecified services. Later entries from August show him receiving payment for "medicine" – this and other odd entries have led to speculation by at least one writer that Bob Birch cared for the horses that supplied the power to the Mint's rolling mill and was not a skilled worker. Specifically, it has been asserted that "the July 20th entry, for one dollar ('Bob Birch on account'), is followed immediately by the July 22nd entry, for eight cents, 'Ferriage for the hostler' [horse groom or stableman]"[63] This argument is entirely without merit. The entry paying Birch on account was made on Saturday, July 20, 1793, and is followed by payments made to eleven other men. Moreover, the payments made the following Monday do not even list Bob Birch's name:

> **Monday July 22, 1793**[64]
> [Warwick, Schreiner, Lamange, Sinderling, Ward, Ryon]-in the shop
> Flude&Gerard-coining
> Sumers&Zolinger-Labourers
> Paid ferriage for the hostler 8 cts.
> for a bushel of salt 43 cts.

The July 22nd entry "Paid ferriage for the hostler 8 cts." does not "immediately" follow the entry paying Birch two days before and has nothing to do with him. To assert otherwise is ridiculous. As such, while the August entry paying Bob Birch for medicine is curious and needs further explanation (supplied below), there is not a shred of evidence that Bob Birch tended the Mint's horses.

On December 5, 1843, Jonas McClintock, an officer of the US Mint, wrote in the *Pittsburgh Morning Chronicle* that "Mr. Jno. Harper, (an extensive manufacturer of saws,) then located on the corner of Sixth and Cherry sts., caused dies to be engraved under the direction of Mr. Robt. Birch, and which were it is believed, executed, by a German artist in his employment, with the exception of the lettering, which in all probability was done by himself." Based on this letter, many researchers believed that Peter Getz engraved the dies[65] and "Robert Birch" merely punched in the lettering and date, but this overlooks the fact that the name "BIRCH" appears under the bust, not "GETZ," as one would expect if Getz were the artist. Additionally, McClintock's story suffers from the same defect as Gen. Thomas Machin's letter identifying James Atlee as an engraver, that is, McClintock was not born until 1808 and was, in all probability, merely relaying information heard decades after the fact. As such, some details of what actually occurred in late 1792 were possibly lost in transmission. None-the-less, McClintock's story indicates that Mint lore associated Robert or Bob[66] Birch with the 1792 dies, not William or Bill Birch.

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62 Don Taxay did not have available to him in 1966 either the lawsuit between Bob Birch and Albion Cox or the 1788 Philadelphia advertisement (Fig. 8).

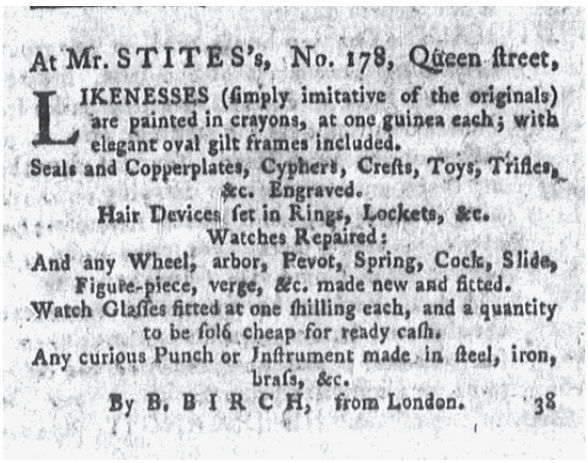
63 See, description for lot 5505 in the 2015 January 7–12 FUN US Coins Signature Auction—Orlando #1216.

64 Personnel Record, National Archives, Record Group. 104, No. 196.

65 Musante, Medallic Washington, p. 79. (According to Musante, "Getz probably cut the entire die including letters and bust").

66 "Bob" is a hypocorism for "Robert" in English speaking countries with its origins in the Middle Ages.

One additional major clue exists connecting Bob Birch to the 1792 Birch Cent that was unknown to Breen, Taxay, or Carlson. On March 8, 1788, a highly unusual announcement appeared in Philadelphia's *Independent Gazetteer* introducing a "Stranger" "of no consequence or estimation" from "England" to the citizens of Philadelphia. Oddly, the Stranger, who touted his copperplate and seal-engraving skills along with his ability to make "any punches in steel or brass," failed to provide his name in the notice.[67] A review of the 1788 Philadelphia advertisement (Fig. 8) shows many striking similarities to B. Birch's 1784 New York advertisement (Fig. 7) and a few differences as well, but overall a strong case can be made that the two advertisements were placed by, or on behalf of, the same man, Robert "Bob" Birch. The two advertisements are shown together for easy comparison:



At Mr. STITES's, No. 178, Queen ſtreet,

LIKENESSES (ſimply imitative of the originals) are painted in crayons, at one guinea each; with elegant oval gilt frames included.

Seals and Copperplates, Cyphers, Creſts, Toys, Trifles, &c. Engraved.

Hair Devices ſet in Rings, Lockets, &c.

Watches Repaired:

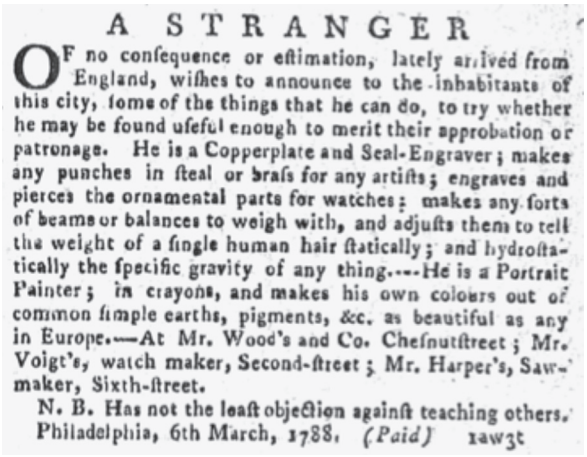
And any Wheel, arbor, Pevot, Spring, Cock, Slide, Figure-piece, verge, &c. made new and fitted.

Watch Glaſſes fitted at one ſhilling each, and a quantity to be ſold cheap for ready caſh.

Any curious Punch or Inſtrument made in ſteel, iron, braſs, &c.

By B. B I R C H, from London. 38

Figure 7. 1784 New York "B. Birch" advertisement. *New-York Packet* (New York, NY), Dec. 20, 1784.



A STRANGER

OF no conſequence or eſtimation, lately arrived from England, wiſhes to announce to the inhabitants of this city, ſome of the things that he can do, to try whether he may be found uſeful enough to merit their approbation or patronage. He is a Copperplate and Seal-Engraver; makes any punches in ſteal or braſs for any artiſts; engraves and pierces the ornamental parts for watches; makes any ſorts of beams or balances to weigh with, and adjuſts them to tell the weight of a ſingle human hair ſtatically; and hydroſtatically the ſpecific gravity of any thing.---He is a Portrait Painter; in crayons, and makes his own colours out of common ſimple earths, pigments, &c. as beautiful as any in Europe.---At Mr. Wood's and Co. Cheſnutſtreet; Mr. Voigt's, watch maker, Second-ſtreet; Mr. Harper's, Saw-maker, Sixth-ſtreet.

N. B. Has not the leaſt objection againſt teaching others.

Philadelphia, 6th March, 1788. *(Paid)* 1aw3t

Figure 8. 1788 Philadelphia advertisement.

When comparing the two notices a number of points must be brought to the reader's attention. First, although many pre-federal merchants advertised crayons among their wares, it was very rare for a limner to advertise the use of that medium.[68] The term "A Stranger" may have indicated the worker was down on his luck and in need of Christian charity.[69] The 1784, B. Birch notice prominently lists his skills as a watch repairman, while the 1788 advertisement states that the Stranger can be found at "Mr. Wood's" on Chestnut Street or "Mr. Voigt's" on Second Street. John Wood, was a clock and watch-maker, whose

67 The author has read hundreds of pre-federal advertisements for engravers and silversmiths, and the March 1788 "Stranger" advertisement is by far the most peculiar. There is simply no other advertisement like it.

68 The author searched advertisements in every available paper between 1784 and 1792 and discovered only one other artist who advertised that he "Drew Likenesses in Miniature, and Crayon Painting" -Francis Rabineau from New York City in late 1792.

69 The Bible says, "For I was an hungred, and ye gave me meat: I was thirsty, and ye gave me drink: I was a stranger, and ye took me in:" Matthew 25:35–36 – King James Version. This may also explain why the man is described as being "of no consequence or estimation," for later in the same biblical chapter Jesus says, when speaking of charity towards strangers, that those who act with kindness towards "the least" shall enjoy eternal life. Matthew 25:45–46. The theme in Matthew 25 is similar to that of the parable of the Good Samaritan found in Luke 10:25–37. These verses would have been very familiar to Americans in 1788.

store was located at the corner of Front and Chestnut Streets,[70] and the Mr. Voigt mentioned in the notice was, of course, Henry Voigt, the Philadelphia watchmaker[71] who would go on to become the first Chief Coiner of the U.S. Mint and the man whose workmen crafted the dies for the 1792 Birch Cent and disme coinages.[72] Just as important is the third point of contact for the Stranger—"Mr. Harper" "Saw-maker, Sixth-street." Birch Cents were struck in the cellar of Harper's property at the corner of Cherry and 6th Streets and he was instrumental to the coins' manufacture. In addition to his Philadelphia establishment, Harper operated a saw-making facility in Trenton and worked closely with Albion Cox at Rahway Mills where New Jersey coppers were manufactured.[73] Harper and Cox have been described as "life-long" friends.[74]

Harper, an English immigrant, was a blacksmith[75] and highly skilled mechanic, who oversaw the coin presses and rolling mills at the Rahway Mint.[76] Harper lived close to the Rahway facility and acted as its foreman.[77] His involvement with the 1792 pattern coinage was no accident. Prior to 1792 he had been very busy positioning himself for a private contract with the federal government to produce copper coins.[78] Breen believed that Harper obtained one of the presses formerly used to manufacture New Jersey coppers at Morristown and moved it to Philadelphia to display his ability to fulfill a coining contract if granted.[79] This explains why there was a coining press in Harper's cellar. Based on Harper's later demonstrated coining and metal fabrication skills, however, it is more likely that the press and other coining equipment in the cellar was manufactured by Harper or his employees.[80] If Bob Birch engraved New Jersey dies

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70 See, *Pennsylvania Mercury, and Universal Advertiser* (Philadelphia, PA), May 15, 1788, p. 1.

71 See, *Freeman's Journal; or, the North-American Intelligencer* (Philadelphia, PA), July 29, 1789, p. 1, showing Henry Voight, watchmaker, located at "Second-street nearly opposite the Buck-Tavern above Race-street.

72 See footnote 60.

73 Breen, *Breen's Complete Encyclopedia*, p. 152.

74 Michael Hodder, "Albion Cox and John Harper Gleanings from the Birmingham and Sheffield Archives," *Penny-Wise*, Vol. 27, No. 2 (1993), p. 85. See also, Breen, "The United States Patterns of 1792," p. 14, who records that on Jan. 18, 1795, Cox, recommended to Elias Boudinot that he hire Harper, stating "he will give you such Information with respect to the proceedings of coinage as will appear almost Increditable (*sic*) when contracted with the present proceedings—I mean this only that you may be acquainted with the defects & see the remedy & apply it—"

75 Harper lists his profession as "blacksmith" on the 1790 US Census.

76 *Ibid*, See also, R.W. Julian, "Harper Took a Stab at Making Cents," *Numismatic News*, Aug. 9, 2011; Albion Cox wrote a letter to Elias Boudinot dated Jan. 18, 1795 in which he stated that John Harper worked at the Rahway Mint.

77 Damon Douglas, *The Copper Coinage of the State of New Jersey: Annotated Manuscript of Damon G. Douglas*, Gary Trudgen ed., (ANS, New York City, 2003), p. 48.

78 A few years later, Harper submitted a proposal for the private coining of copper, stating:

Sir:
I propose to engage with you, or any other gentlemen, on the following terms—that is to say—to receive sheet copper of the right size and coin the same into Cents complete for circulation at the rate of eighty dollars per ton and to return the same in Cents and shruf [clippings] deducting twenty-five pounds in each ton for waste. I will also forge and harden all the dies, beds, and punches for the same.

Philadelphia, November 4, 1795.
John Harper

79 Breen, "The United States Patterns of 1792," p. 13.

80 In 1786, John Harper petitioned Congress for reimbursement for expenses associated with work performed on behalf of the committee inspecting the US Mint. In response, Elias Boudinot was instructed to prepare a report to determine if Harper's claim had merit. In the report, Boudinot states "[i]n a few weeks the said memorialist [Harper] again called on the committee on his own accord, and informed them that his press was ready, that he had made the dies also, and would prove by actual experiment what he had

in 1786 and 1787, John Harper would have been aware of it and wanted Birch in his employ should he be awarded the federal contract and have need of a die-sinker's services.

If, as suspected, Bob Birch moved from New York to Philadelphia in 1788 and sought employment with Henry Voigt and John Harper and if he was an experienced die-sinker, having worked for Cox making New Jersey and/or counterfeit dies, then he would be the natural person for Voigt and Harper to have selected to engrave the dies for the 1792 Birch Cent. Based on all the evidence presented, it is more probable than not that the Bob Birch who sued Albion Cox in 1787 went on to engrave the dies used for the first coinage struck by the Mint. An examination of the 1792 Birch Cent shows that it is well executed and not the work of a neophyte die-sinker. Clearly the man who crafted the Birch Cent dies possessed sufficient skill to have cut many of the dies we attribute to James Atlee—including several of the dies used at the Rahway Mint that exhibit the Atlee broken "A" punch: Maris obverses 3, 13, 15, 18, 23, 26, 28, 32, 33, 41, 42, 52, 68, and 69.

Samuel Atlee's association with Cox ultimately led to his financial ruin. Based on Cox's total inability to manage his funds, he was deeply in debt by 1787. The New Jersey coinage grant, however, proved a powerful draw for investors who foresaw huge profit in the venture. Thomas Goadsby lent Cox increasingly larger sums of money. On July 7, 1787, Goadsby loaned Cox £1,200, but this time insisted that someone co-sign the loan, which Samuel Atlee foolishly did.[81] Despite the enormous loan, Cox could not keep ahead of his creditors who had him confined to debtor's prison. This put Cox's finances into a tail-spin, leading him to abscond to England to escape his creditors, including Goadsby, whom Cox never fully repaid for the £1,200 loan guaranteed by Samuel Atlee. Cox remained in England until 1793 when he was invited back to America to be chief assayer of the newly-formed US Mint in Philadelphia, a post he accepted. His skills were so essential to coin production at the Mint that when he died suddenly on November 27, 1795, the Mint was forced to halt production of all gold and silver coins.[82]

The Mint's workers were plagued in the early days with disease, including yearly outbreaks of deadly yellow fever that claimed many lives. This might explain why Bob Birch, who is believed to have succumbed to yellow fever himself in late 1793, was paid or reimbursed for "medicine." Between August 1 and November 9, 1793, roughly the time frame when Birch was paid $4.74 for medicine, an estimated 5,000 or more people died from yellow fever in Philadelphia, then a city of approximately 40,000.[83] That the Mint would pay Birch to venture into the city to procure medicine for humans, not equines, is not, under the circumstances, an indication that he cared for animals or was unskilled. Indeed, Birch may have been on a mercy mission to try to save the life of another Mint employee—fellow engraver and New Jersey native Joseph Wright, who succumbed to the disease on September 13, 1793.[84]

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asserted as theory. The committee attended, and were greatly pleased with the simplicity of the machine, and the expedition with which it struck the coins." The coins produced for the demonstration are the 1795 "Jefferson Head" large cents.

81 See, Raymond H. Williamson, "Trial at Law: Albion Cox v. Thomas Goadsby: Filed 19 January 1788," *CNL*, Serial 62, Vol. 21, No. 1, April 1982, p. 777.

82 US Mint Notes, Dec. 3, 1795

83 In the 1790 US Census, Philadelphia had a population of 28,522, but this only referred to present-day Center City and did not include areas that were later absorbed into the metropolis.

84 *National Gazette* (Philadelphia, PA), Sept. 14, 1793, p. 367.

III. Conclusions

The above evaluation of Samuel and James Atlee's ownership of the brewery demonstrates that almost from the very moment they set foot in America they were scheming to manufacture counterfeit copper coins. As time went on, they associated themselves more and more with men involved in coining and shifted their focus entirely from the unprofitable business of brewing to the more lucrative venture of counterfeiting. Indeed, after the summer of 1785, when the brewery stopped selling beer, it appears that Samuel and James Atlee entirely devoted themselves to the manufacture of coins. James Atlee was not the prolific diecutter Walter Breen and others have made him out to be. In all likelihood, James' primary contribution to the business of coin-making was as overseer of production. Coining dies could easily and inexpensively be acquired from New York City engravers like Bob Birch.

The riddle of who engraved the 1792 Birch Cent pattern dies has, as far as is possible, been solved—it was Bob Birch. In answering one old riddle, many more new questions are now presented. Birch's 1784 and 1788 advertisements stated he made steel punches. Could Birch have had a matrix that produced broken "A" punches? Considering that Birch manufactured steel punches, it would not make sense for him to procure or borrow them from others. Moreover, if Birch was advertising in 1784 that he made steel punches, is it not possible that the newly arrived James Atlee might have purchased some? In order to move forward and discover the engravers of the dies for a host of Confederation Era coins numismatic researchers must free themselves from the shackles of the Atlee Broken "A" punch link theory and other die linkage research that attributes so many dies to James F. Atlee. Hopefully, this article will open the way for new research to determine who the true engravers were.